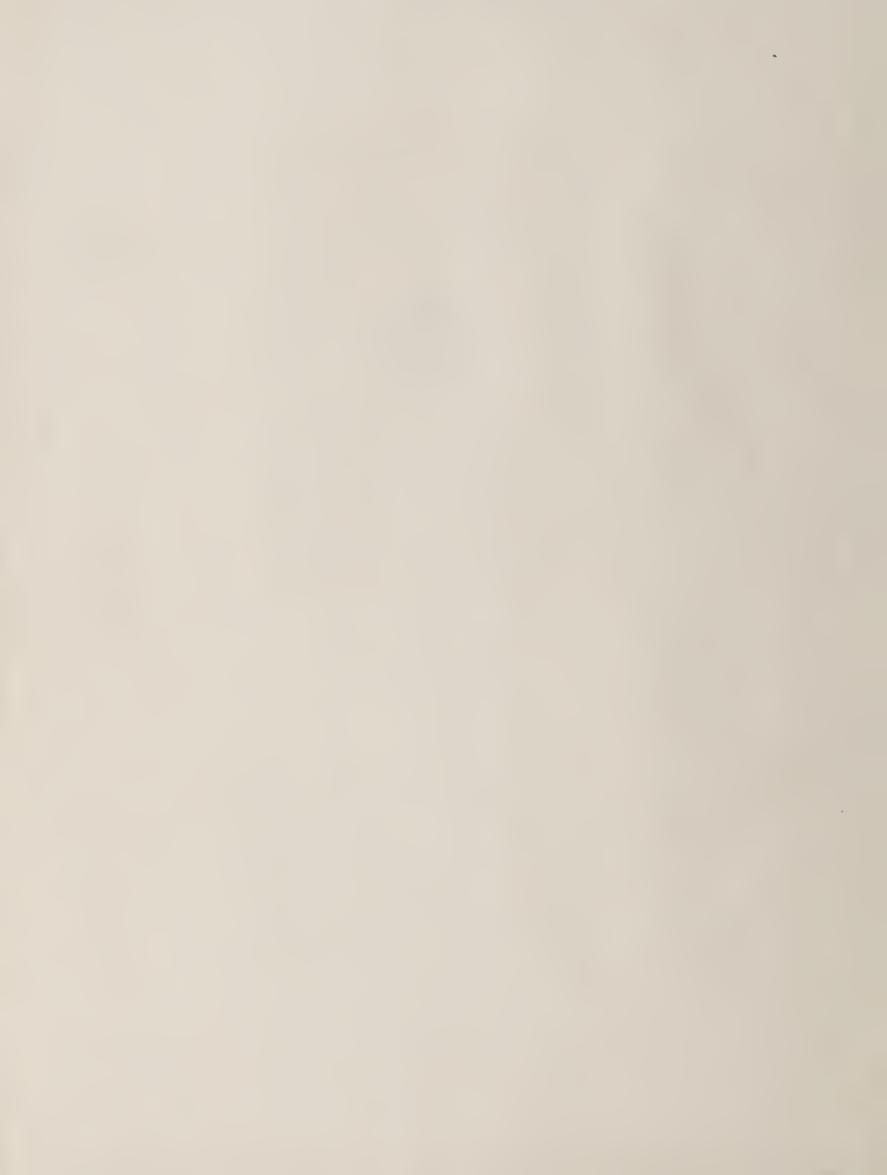
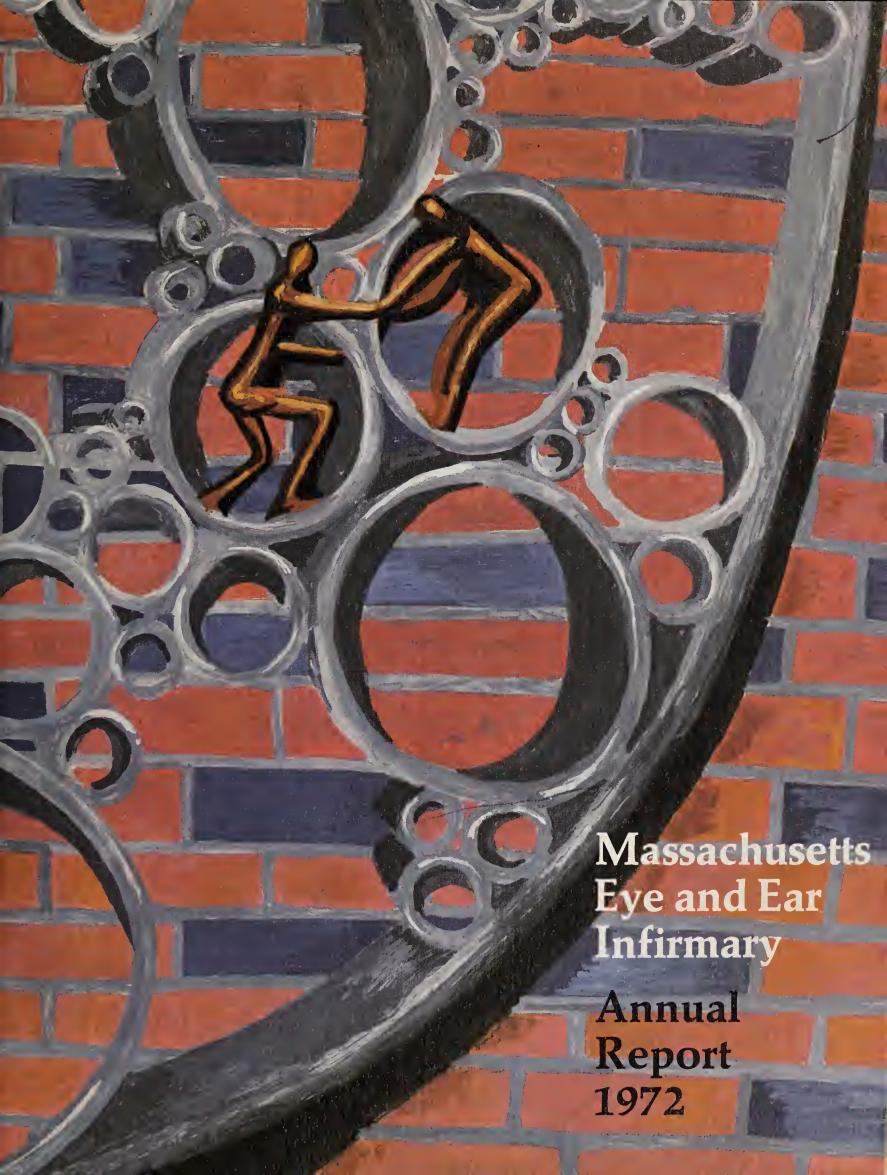


MASSACHUSETTS EYE AND EAR INFIRMARY



OF
OPHTHALMOLOGY



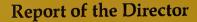


Digitized by the Internet Archive in 2018 with funding from Boston Public Library

Massachusetts Eye and Ear Infirmary

One hundred and forty-sixth

Annual Report 1972



It is a momentous time for the Massachusetts Eye and Ear Infirmary: A time like nothing else we have seen in this century; a time such as will not come again for even longer.

We stand now on the very threshold of moving into the first and major portion of the new Infirmary, a move of great magnitude.

It also is of equal significance that even before that giant step is fully taken we shall be underway with our next project, the completion with Phase II of construction that will culminate in a wholly new Infirmary.

We've been concerned for so long with the initial and primary portion of this work --- planning, designing and building for more than six years — that we tend to lose our perspective, temporarily. At times we're not as aware as we might be of the steady and continuing evolution of the Infirmary. For the Infirmary is by no means only the edifice that is about to be occupied, nor the one immediately next to be, nor the one standing since the last century, nor the far humbler structures of the distant past, nor even those facilities not yet conceived that surely lie ahead in the future.

The Infirmary is all of those. And from time to time we would do well to see it in that kind of configuration.

We do not ever really know, and cannot, the outer boundaries of the universe of our fine hospital. In any real sense we can only know its present sphere in time, the current everyday world of the Infirmary. Yet, almost incredibly, we are witnessing within a very brief span of years the Infirmary's journey in time and space through three such worlds — its passage

from a recent past to a new present and thence, quickly again, into an imminent future. Few are ever so privileged.

Now the Infirmary, of course, as a place is inanimate. It does not move or grow or change on its own. The Infirmary is what is done here. We are the doers. To give dimension to our perspective, then, we must add ourselves to the picture.

We need to step back to get a full-scale view. Rather impressively, we then can see that we are concerned with no less than the rectifying of disorders of vision, hearing and speech. We are given to preserving or restoring man's most vital communicative senses, the essential means by which he perceives his world and interacts with his fellows. And we have long done this job well.

My task here is to sum up a single year in the Infirmary's sphere of time. How did we fare in the year 1972? Well, a year is a fleeting thing at best. The past one seemed exceptionally so. Moreover, it was a difficult time, marked by the wrenching uneasiness that always precedes radical change.

Ours was an especially tantalizing posture. We still were bound in constrictions of space, outmoded patient accommodations and outdated working arrangements. All the while we could see the shape and size of a better working world coming. Before our eyes, day by day, building materials were being transformed into new operating rooms, patients' rooms, power supply and environmental control systems, and all the other essential quarters and conditions we so sorely need.

At mid-year our esteemed Chief of Ophthalmology was granted a leave-of-absence that would culminate in his resignation effective January 1, 1973. This was a most



regrettable loss. Under Dr. Allen's governance the Eye Service had grown immeasurably both in the quality and quantity of its services. A noted clinician, administrator, academician and editor, Dr. Allen's able and admirable leadership carried the Eye Service skillfully through five long years of transition to the very doorstep of a whole new era. Since July, his duties have been borne most creditably by Dr. Charles D. J. Regan who has served as Acting Chief. We are indeed fortunate, in turn, to have the good help of so outstanding an ophthalmologist, teacher and planner as Dr. Regan to step in to so large a breach as that left by Dr. Allen.

Still, we persevered and we progressed, quite notably. In retrospect, among our most outstanding achievements in 1972 we would have to count:

- **The continued climb in visits to our clinics to beyond the 88,000 mark.
- **A similar trend in the demand for our emergency services, these totalling nearly 28,000 cases last year. (Unlike other hospitals, our emergency patients come not only from the local community, but far more often as emergency referrals from hospitals throughout New England.)
- **An inpatient house count, once again, totalling more than 10,600 patients; and a surgical procedure rate of nearly 10,500.
- **Growing emphasis on our specialized services.

More patients made more use of all of them; some needing our more traditional services such as audiology for refined hearing testing and others seeking services that are still so frontline they are quasi-research techniques. By these latter I mean sophisticated services such

as fluorescein angiography that maps the blood vessels of the eye; electroretinography that measures the activity of the retina; Visually Evoked Response testing to measure the receptivity of the brain for sight; ultrasonography that employs high-frequency sound, diagnostically; and otoneurology to locate and define acoustic nerve tumors in the brain.

**Enthusiastically expanded community outreach.

Infirmary teams volunteered their services at community health fairs and neighborhood health centers. Key members of our medical staff appeared on several series of TV public service programs. The Infirmary undertook sponsorship of the famed Lowell Institute Lectures in Medicine, a forum for public enlightenment about scientific advance. Strabismus symposia were held to forewarn teachers and nurses about this threat to sight in young schoolchildren.

**In the realms of our medical specialties, we achieved the lowest infection rate following cataract surgery in medical history. We instituted a new low vision clinic for patients with minimal vision and we introduced a new specialty clinic for ophthalmic plastic surgery.

**Our research programs continue to probe the still unsolved aspects of eye, and ear, nose and throat disorders.

To name but a few, respective investigative teams sought out substances to fight viruses that assault the eye; explored new biological glues as emergency aids in surgery; developed equipment to make inner-ear function testing clinically feasible; refined neck and throat reconstructive surgery to restore speech; studied nerve path-

ways in the brain that relate to hearing and balance or to tumor formation; compared intensity patterns of dizziness to gain insight into Meniere's disease and other disorders of equilibrium.

**The devising and implementation of a totally new computeranalysis system for patient management that links patient placement to nursing care to a whole new degree; a prototype system for the nation with a high potential for real hospital cost containment.

Much more could be said, but hopefully my point has been made: That we, the Infirmary move ahead in many and highly varied ways.

At a time like this, a momentous time, we ought to recognize the equally varied and individual elements that make for our wholeness. We function first, independently; then as a team; then as teams of teams. In each instance we affect one another, enriching the result, carrying forward the best interests of our patients.

The process is much like that depicted in the sculpture selected to symbolize the Infirmary at this pivotal time in its history. We grope and discover, learn and share, help, heal and hearten one another — all to better serve those who need our very best.

And in so doing, we produce the overall medical excellence for which we are widely and deservedly known. With this as our constant, let us press on.

Charles Wood

Structurally completed in 1972, as shown here, is the first and major portion of the Infirmary's new hospital building. Blueprinted as Phase I, this \$23 million section will largely replace the hospital's present facilities. Occupancy will begin in the early Spring of 1973 and continue in carefully timed stages over the following few months.

Ingenious lighting is one of the hallmarks of its design carried out by the architectural firm of Walk Jones and Francis Mah, Inc. of Memphis, Tennessee. All the rooms

are fitted with solar-grey thermopane windows to maximize natural lighting, and minimize glare. Interior lights all are rheostat controlled to adjust light levels to those needed or desired at any given time. Similar attention has been given sound control via installation of double-purpose insulation and carpeting that has been proved to be more serviceable than other forms of flooring.

Most notable of all is the room's designed-in flexibility that allows for conversion — to a degree not achieved heretofore — to single or double occupancy with hardly a trace of the alternate use.

Overall, the patient rooms incorporate so many advanced features, they are viewed as a prototype of the future; indeed, a reflection of the form that hospital care itself will take in the years ahead.







Stewardship

As we near the completion of the first phase of our building program with occupancy in the new quarters scheduled for early 1973, we would like to express our gratitude to all those who have made this possible. At the same time, in order to keep the Massachusetts Eye and Ear Infirmary as the best facility in our specialties for patient care, teaching and research, we know the effort must be continued. We are a great hospital and must remain so whatever may be required from us to accomplish that result.

Since the Trustees and Managers are dedicated to that purpose we have agreed to begin at once to carry out the original plans for Phase II of our building program. This will save increasing costs and provide the desired facility we all envisioned when the project was first undertaken. Plans will be implemented immediately to see that this second phase continues as soon as reasonably possible following completion of Phase I.

On the basis of this past year it appears that the '70s will require an increasing amount of time from our Trustees in order to carry out the needs of a modern hospital. In addition to taking care of financial requirements for capital additions, there must be more and more involvement by Trustees in such areas as government regulation and community activity. Furthermore, a Trustee must be willing to serve the hospital administration and staff in relevant committee work where outside expertise and ideas can be helpful.

The trustees and managers announce with regret the resignation of Dr. Henry Freeman Allen as Chief of Ophthalmology. He now is appointed Consulting Chief of Ophthalmology. We are extremely grateful to Dr. Allen for his years of service to our hospital and wish him all the best for the future. His untiring efforts on behalf of this hospital and its staff will long be remembered. We wish here to

thank Dr. Allen for his contribution to all of us.

Dr. Charles D. J. Regan has been appointed Acting Chief of Ophthalmology and we are most appreciative of his willingness to serve, and admirous of the outstanding professional abilities he already has brought to this task.

We sincerely regret the passing of our good friends Dr. Nathaniel Faxon who served us long and faithfully as Director and as Trustee since 1949 and Samuel S. Drury whose able service to the hospital in the area of development will be sorely missed.

As we begin the new year, the hospital will call increasingly on the Trustees for their assistance and they, in turn, can look to our extremely able medical staff and administration to maintain the Massachusetts Eye and Ear Infirmary as a great hospital.

WILLIAM H. CLAFLIN III President MELVILLE CHAPIN Chairman



Ambulatory Services

Year by year, the ambulatory clinics become more dominant in the admixture of specialty services the Infirmary provides the public.

Considering the still sorely limited space, the numbers of clinic patients are staggering. In 1972, nearly 63,000 patient visits to the Eye Service were managed, and more than 25,000 to the Ear, Nose and Throat (ENT) Service. The total exceeds 88,000 clinic visits.

Additionally, in the two examination rooms that serve the Emergency Service, another 27,824 patients were given emergency medical care.

When taken together, the ambulatory service visits now surpass the 100,000 mark, making the usage of the Infirmary's ambulatory services the fourth highest of any hospital in Boston and more significantly, the second highest of its kind in the United States.

Far different from ambulatory and emergency services in general acute care or community hospitals, our clinic population does not derive solely from local cities and towns, nor even the Metropolitan Boston area.

Many clinic patients — and this is an increasing trend — travel to the Infirmary from distant parts of the nation, many are from Canada, and a few even from foreign countries. Emergency patients are referred from hospitals throughout New England.

Patients literally pour in to the clinics six days a week. Emergency patients, of course, are seen at any hour of the day or night. Moreover, of these emergency cases, nearly 2,800 underwent minor surgery immediately.

Unlike previous years, clinic patients now are seen on an appointment basis to minimize waiting time. Further, clinic appointments are coordinated so that patients in need of both Eye and ENT care may have both those medical specialty problems treated during the same visit to the Infirmary.

Few appreciate the full scope of the clinics, the depth and volume of their work.

Under the general category Eye Clinics, the Infirmary operates a series of subspecialty clinics in relation to glaucoma, cornea, retina, orthoptics, contact lens, scleral lens and refraction services, as well as special fluorescein angiography and electroretinography units.



As a convenience to Eye Clinic patients, many of whom are seriously hampered by low vision, the Infirmary also operates an optical shop to dispense eye glasses and lenses, some of a very specialized nature. During 1972, nearly 8,500 pairs of eye glasses were fitted and more than 3,500 repaired.

Under the general aegis ENT Clinics, specialty care is made available through full audiology services for the most advanced form of hearing measurement. Classes also are available for the teaching of esophageal speech, a technique for retraining people to speak again who've undergone surgery requiring the removal of the voice box due to injury or disease. This technique was developed by Mrs. Mary Doehler of the Infirmary staff, herself a laryngectomee, who also trains teachers in the art of esophageal speech so that they may make such training available to others both in this country and abroad.

ENT Clinic patients, as well as inpatients, may require and are provided examinations that can only be performed by otoneurologists; specialists in both the fields of medicine concerned with the ear and the nervous system. Such exams often involve a very new, and at the Infirmary most extensively developed test, known as an Electronystagmogram. This test electronically records and charts the most delicate movement of the eyes, even when they are closed. The pattern of the graph reflects, among other things, how the balance system is working in the inner ear or brain, and provides a new set of clues as to which of several possible disorders may be present.

Eye Clinic nurse Sharon Vaughan tests eye pressure in patient.

ENT resident Dr. Ernest A. Weymuller, Jr., examines ear of clinic patient.

Dr. Ronald C. Pruett prepares clinic patient's eyes for retina examination.

Mrs. Mary Doehler, director of Esophageal Speech Classes.



Outreach

More and more each year the Infirmary extends the reach of its medical expertise outside its walls into the public domain.

In 1972 this was particularly noticeable, and the need for even greater outreach became more apparent.

On three occasions, teams of volunteers — Eye Staff specialists, residents in training, nurses, specialty clinic staffers and social service workers — examined patients at neighborhood health fairs and a community health center. Significantly, the finding of 20 to 40 percent in need of eye care attests to a substantial amount of presently untreated or inadequately treated eye disorders in neighborhood populations.

To enlist the aid of school teachers and nurses in detecting in young children a potentially blinding condition caused by eye muscle imbalance, key Infirmary staffers conducted educational symposia for public and parochial school personnel. For this effort Ocular Motility Clinic specialists, orthoptists and social service personnel teamed up. The importance of the program cannot be overemphasized since this eye problem is highly correctable, but treatment needs to begin by the time a child is seven years of age (even younger is better) to bring vision up successfully.

Television opened a new line of communication to the general public in 1972. Repeatedly, Infirmary specialists appeared by request on a new TV program, en-

titled "Medical Call," carried on WCVB, Channel 5, to explain eye, and ear, nose and throat disorders, and to answer questions telephoned in by the viewers. The demand for these appearances indicates the public's need for more and better information about hearing, speech and vision problems. Further, the Infirmary was instrumental in developing the first televised news program adapted for viewing for people who are hard of hearing. Arrangements were worked out for a translation of the news into the 'hand' language understood by many with profound hearing loss.

To keep the public informed of the implications within medical and technological advances in our specialties, the Infirmary sought and was awarded sponsorship of the famed Lowell Institute Lectures in Medicine. In the future, medicine is expected to be able to enlarge man's communicative senses; his



ability to see, hear or speak should those senses be diminished by injury, age or disease. Thus, the title selected for the series is: "The Future: Man Augments His Senses."

Regularly, the Infirmary conducted tours for high-schoolers, most often members of the Future Scientists and Nurses of America clubs, and for other student nurse and/or civic groups with a special interest in our medical specialties. Materials now are stocked to meet growing requests from students entering science fairs or from teachers for science class exhibits.

In the process of major reorganization on the occasion of its 25th anniversary, the Boston Eye Bank officially resumed its original name, the New England Eye Bank, to more clearly reflect the area it

serves. Via mail, radio, TV and newspaper appeals, campaigns were started to make the public more aware of the vital service performed by the eye bank in securing eye tissue from donors after death to be used for corneal transplants that restore vision. Over the 25 years, the eye bank has recovered nearly 10,000 eyes. And at any time in the year nearly 100 patients are awaiting a cornea transplant which virtually assures return of vision.

Dr. Stephen Fricker, director of the Ocular Motility Clinic, demonstrates "Lucy, the model child" with obvious eye muscle imbalance to help school teachers and nurses detect this problem in young children.

Dr. Albert E. Sloane, a noted authority and author on the subject of cataracts, who was among the Infirmary specialists making TV public appearances in 1972.

Mrs. Barbara Bubar and her father, Archie Nutting, the first 'family' members ever to receive corneal transplants restoring vision in which eye tissue from the same donor was used. Their surgery was made possible through the services of the New England Eye Bank of the Infirmary

Future Scientists and Nurses of America club members flock to Infirmary for tours and instruction.



Research

Research gains, of course, know no arbitrary timetable. Nonetheless at the Infirmary in 1972, laboratory explorations continued to reveal, clarify or confirm various aspects of knowledge about the function of man's vital organs related to speech, hearing and sight. Such findings, in turn, form the basis for improved treatment and, indeed, some this year proved to be the 'agent of remedy' itself.

One, of great significance, was the development of a new virus fighting drug to be used as a medication to quell a particularly serious form of infection that attacks the delicate cornea in the front of the eye. Infection with this virus (herpes simplex) can be devastatingly damaging to the cornea and, in fact, such infections are the commonest cause of corneal blindness in the United States. Previously, only one

drug was available to combat such infections. The new drug, technically known as Ara-A, was not only developed in a form suitable for use in the eye, but was proved to be far more effective against these eye infections. Though still an investigative drug, it is anticipated that it will be released for general use in a year or so.

In another investigation, a way was found to seat a special drug-impregnated membrane in a patient's lower lid. The membrane permits the constant release of the drug into the eye without interruption day or night. The process is highly comparable to time-span capsules that release medicine into the human system on a steady basis. In the treatment of eye disorders, this means of constancy of drug application represents a brand new concept, in effect, an exciting new approach to an idea that has proved its worth in systemic disorders.

More basic research began an intensive study of the effect of cold storage on donor corneas, destined for use as transplants to restore vision. While the success rate in such operations is commendably high, greater attention has recently been drawn to the effect of even brief storage on the super delicate membrane that forms the outer wall of the cornea. This layer has been found to be of increasing importance in patients whose corneas were damaged by chemical burns or as a result of some kinds of drug reactions. Both conditions cause severe, chronic scarring. Only recently has serious research interest focused on the health of the donor cornea as a factor in the success of transplantation in such cases.

One of the still little understood areas of the human system is the network of nerve pathways in the brain that relate to man's hearing and to his sense of balance. Probing into this realm, a research study at



the Infirmary has added significantly to the description of this inter-related, nerve-balance-hearing system. Information of this type helps in the understanding of dizziness, as well as improving diagnosis. Once the nerve pathways are known, differentially, for example, far better clues are provided for the localization of hearing and balance disorders that originate in the brain.

Still other research is exploring a different kind of balance system link-up to the brain. This study is unusual because the signals of distress are expressed as abnormal eye movements. The only two otoneurologists (physicians trained in both ear and nervous system specialties) in the Northeast sector of the country are carrying out these ultra-sophisticated research studies. They can track eye movements via electronic recordings and

thereby distinguish between disturbances of the balance or hearing systems within the inner ear or in locations in the brain stem. Their research work also crosses over heavily into patient care because such recordings even now help make it possible to differentiate between disorders such as Meniere's disease, nerve tumors, degenerative conditions within the inner ear, some strokes, or Multiple Sclerosis.

The attention of the Eaton-Peabody Laboratory, formed in 1959 in a scientific alliance between the Mass. Institute of Technology and the Infirmary, continued to focus on the form and function of the fundamental system for hearing.

Dr. Deborah P. Langston, whose virology studies have led to discovery of new virus fighting drug for use against eye infections.

Dr. Richard A. P. Thoft, whose research is focusing on the effect of cold storage on the sensitive outer layer of donor corneas used to restore vision.

Dr. Claes Dohlman, director of the Cornea Service, a noted authority on diseases of the cornea, whose research ranges from biochemistry of the cornea to artificial corneas and now the uses of soft lenses in cornea disorders.

Dr. Richard Gacek with research assistant Michael Lyons (left), whose research is advancing the understanding of the inter-related nerve-balance-hearing system.



Research (continued)

A method of measuring pressure changes in the fluids of the shelllike inner ear structure called the cochlea during sound stimulation was developed. Successful recordings now have been made of electrical activity in single sensory cells in the inner ear of lizards. This work seeks a better understanding of how sound is converted into activity in the auditory nerve by the sensory cells. Normal responses of auditory nerve fibres have been studied systematically for more than a decade. In the immediate past few years more emphasis is being placed on the study of fibres from animals with inner ear pathology, using the normative data as a baseline. Some of the basic information necessary for the development of artificial devices to replace malfunctioning inner ears is now being collected in studies of nerve fibre response to complex stimuli such as speech signals.

Otoneurologists Alfred D. Weiss and Stephen Parker, whose special studies now measure eye movements to diagnose and locate problems of the inner ear and its connection in the brain.



Special Services

Clearly, 1972 demonstrated the growing emphasis on our most specialized services.

As a referral center for frontline diagnostic as well as therapeutic procedures, the Infirmary's most advanced medical skills were more widely sought than ever before. Some of the techniques employed in such examinations only recently evolved from research, while others represent more traditional studies but involve esoteric equipment, and highly experienced professionals.

Plastic surgery of the lids and orbit of the eye won recognition in 1972 with the establishment of the Ophthalmic Plastic Surgery Consultation Service. Although such plastic surgery is required in only one percent of all ophthalmic cases, the problems are usually highly complex and often require a series of operations. This form of plastic surgery involves

reconstruction of the soft and bony structures surrounding the eye and the restoration or correction of muscle, gland and duct systems of the eye. To do this work properly requires a thorough knowledge of the eye plus plastic surgery skills to cope with the complicated nature of structural disorders of the eye.

The condition of patients who have very little sight is the special concern of an Infirmary clinic whose focus is on low vision. This center offers a range of diagnostic, evaluatory and treatment services to those with markedly sub-normal vision. Low vision, by definition, means great loss of visual acuity or visual field due to pathology of the eye or brain. These severe eye conditions bode to be an increasing problem in the future as people are living longer and therefore tend to

Dr. Joel A. Kraut, director of the Low Vision Clinic, demonstrates illuminated magnifying glass for patient.

Dr. Eliot Berson, director of the Electroretinography Service.



Special Services (continued)

be more susceptible to the degenerative eye diseases that cause low vision.

The activities of the Fluorescein Angiography Laboratory also increased significantly. In this center a special light-activated dye is used to map the inner blood vessels of the eye to both diagnose and locate disorders at any one of the three basic layers of the retina, the so-called film of the cameralike eye.

The value of ultrasonography, high-frequency sound, as a diagnostic tool also has proved itself to the extent that plans are now complete for the opening of a specialized clinic unit in that field.

Two related, but separate, Infirmary specialty services use measurement of the electrical activity of the eye or the sightrecognizing area of the brain. These services also have felt heightened demands for these

electronic techniques. One, Electroretinography, measures electrical responses at the site of the retina where vision begins. In 1972, the Electroretinography center evaluated more than 300 patients and started a trial study to try to preserve vision in some patients with a disorder called Retinitis Pigmentosa, that usually causes blindness by mid-life. In the other related Center, tiny electrical signals are retrieved from the area of the brain where the mind "sees". These signals provide eye specialists with important information about the state of a patient's vision at the end stage where the brain translates light messages into images. This technique is known as the Visually Evoked Response, and though still largely applied to research studies, the VER is also being used as a diagnostic tool to an increasing extent.

Audiology, or more familiarly, hearing testing, has long been a special service at the Infirmary. In 1972 its caseload surpassed the 9,000 mark by nearly 200 more patients. Inpatients and outpatients of all ages underwent the most refined hearing measurement tests possible for diagnostic purposes and to assess the necessity for, or the efficacy of, treatment. The testing is carried out in soundproof chambers by means of radioed-in sounds and signal-relayed responses. Additionally, the Infirmary's staff of audiologists provided counselling to more than a thousand patients concerning hearing aids.

The Infirmary's special clinic for detection and treatment of tumors of the head and neck continued to be the busiest of all the tumor clinics housed at the Mass.



General Hospital. An average of 40 patients per week required the expertise of this highly specialized ENT tumor center. Moreover, in 1972 a nine-year research study underway at this center was concluded that confirmed that the combination of radiation and the definitive surgery developed at the ENT Tumor Clinic for treating cancer of the upper voice box and tongue has produced the best results for patients. This approach now is being viewed as the preferred method of treatment by ENT specialists across the country. At the request of the National Institute of Health, the tumor clinic investigative team now is starting a combined research project with NIH related to the cause and incidence of cancer of the nasal and inner throat airway that connects to the voicebox.

Adolph Holmberg of the Infirmary's Cornea Service shows young Jefferson Lyons of Jamaica Plain the type of lens planned for use in trials with a technique aimed at protecting one eye from light to try to 'bank' vision in patients with early Retinitis Pigmentosa.

Audiologist Nan Lukmire checks hearing measurements on elite equipment.

Dr. Daniel Miller, director of the tumor clinic.



Nursing

The highly specialized nursing needs of the Infirmary's patients were subjected in 1972 to a thoroughly scientific audit, the first analysis of its kind.

Working with health systems analysts, the nursing director and members of her staff identified direct patient care nursing elements and then gave each an assigned point value. In so doing, they made possible an entire new dimension of patient placement correlated with nurse availability.

The outcome is a new system for determining nursing requirements of patients prior to admission. Upon arrival, patients will be assured room placement according to their preference, but also in keeping with their predicted nursing care needs.

No matter how complicated the nursing care of a patient may be,

it now can be estimated in advance and pre-scheduled into his care.

This interlocking of better patient management with nursing workloads also, and importantly, brings the nursings staff's work into balance. No longer will they confront peaks and valleys of work demands. Instead patient-care assignments become not only reasonable and manageable, but are so on a dependably constant basis. The Infirmary nurse now can be assigned patients not merely by volume but on very new terms that anticipate the demands on her skills and time.

The nursing department's commitment to education also was met. To assure appropriate staffing both here and elsewhere, once again the Infirmary sponsored its intensive 12-week courses in the training of nurses in

Eye and Ear, Nose and Throat specialties. In 1972, twenty-one nurses were graduated in these specialties. The trainees came here from hospitals across the United States.

Marcia Palo, R.N., adjusts eye bandage for patient.

Peggy Coulter, R.N., tends young patients in Children's Wing.



Operating Room Services

To achieve even finer surgical gains for patients, a spate of new operating room changes were put into effect that facilitate surgical techniques and provide better assistance to surgeons.

Under instruction specific for Operating Room Services, a complete orientation program for new personnel has been instituted as well as weekly in-service continuing education programs for the entire Operating Room staff.

A uniquely sophisticated computer system for scheduling all surgical procedures was developed to maximize operating room use. This allows surgeons longer unimpeded periods in surgery and permits superior arrangements for pre- and post-operative care of patients.

Recovery room care, a critical aspect of modern surgery, became even more specialized at the Infirmary in 1972. Patients undergoing more complex surgery required even more postanesthesia supervision and more intensive nursing management.

Considerable time in 1972 also was spent evaluating new needs, equipment and facilities for quality care in the new surgical suites. Moreover, all the details for transfer of the entire surgical service to the Infirmary's new quarters had to be identified and organized. The new surgical suites will be among the first facilities to open in the new building.

Dr. Charles Cummings follows through on post-surgical condition of patient with Rommel Lozada, resident in anesthesiology.

Vital signs and immediate post-operative care are carefully provided by Recovery Room nurse Carol Scanlon.



Teaching

To sustain its commitment to the training of specialists in ophthal-mology and otolaryngology, respectively, the Infirmary had 40 residents enrolled in these teaching programs in 1972.

Such residency training is understandably prized since the Infirmary is a major teaching center of great international distinction.

Characteristic of the Infirmary's residency programs is the extent of participation by every member of the active staff. In rotation, staff specialists are assigned to the residents on a weekly basis. In this way, residents always have senior staff men with them in the clinics and residents always operate with a visiting staff man, never alone or with one another.

Because of the volume of patients in the clinics — more than 80,000 per year on the Eye Service and nearly 38,000 on the Ear, Nose and Throat Service, including emergencies — residents in training have an unusual opportunity to see and learn how to treat a virtually unlimited variety of disorders. Obviously, there's a larger chance to see some exceedingly rare conditions and others of extreme severity.

Similarly, surgical training, at the Infirmary always performed in tandem with a staff specialist, involves a far wider exposure to super-delicate conditions and those requiring the most radical procedures.

At the Infirmary, a high proportion of surgical procedures, both for eye and ear, nose and throat disorders, is performed with exquisitely fine instruments, and actually carried out under surgical microscopes.

Special training devices therefore are often used that permit residents to observe from microscopes mounted on wing-bars that extend to either side from the central microscope used by the surgeon. Residents are thereby able to observe precisely what the surgeon sees and does, as the surgery progresses.

In 1972, twenty-two residents, enrolled at the rate of eight per year, were in training as ophthalmologists. Eighteen were in training as otolaryngologists, six being accepted for ear, nose and throat residency training each year.

Both branches of specialty training also involve key work in the multiple sub-specialties within ophthalmology and otolaryngology. These, too, are educational strengths at



the Infirmary, as distinct, ultraspecialized centers are well established here for specific vision, hearing and speech-related categories of disorders.

Medical and surgical rounds constitute another forum for residency training. During rounds, staff specialists review, examine and discuss the condition of each patient assigned to the residents' care.

Largely because of the unusually close relationship between residents and the senior staff specialists, the quality of specialty training at the Infirmary is well appreciated in the medical academic communities of the world.

Chief of Otolaryngology Dr. Harold F. Schuknecht lectures in amphitheatre.

Acting Chief of Ophthalmology Dr. Charles D. J. Regan consults with resident Richard L. Dallow.

Director of Post-graduate Instruction Dr. Thomas Hutchinson shown here in clinic guidance with resident Jay H. Kaufman.

Neuro-ophthalmologist Shirley Wray presents case study before residents in amphitheatre.



Reach-in

Of great benefit to the patients, their families and the staff are the ways the community reaches in to befriend the Infirmary.

A corps of 157 volunteers not only gave 10,892 hours of their time to the Infirmary's patients and programs, but they also served in some interesting new ways.

The need for a personal escort to accompany patients to the airport, their homes or, occasionally, to a nursing home, had long been known. In 1972, volunteers undertook this responsibility. Further, the volunteers now continue their contact with these escorted patients after their arrival

at their destination for a followup check. In some instances, where former patients were found to be alone and still unable to fend for themselves, Infirmary volunteers have provided some of the personal services required on a short-term basis.

Within the hospital, volunteers also are providing new services for ambulatory patients in our clinics, by directing, assisting and escorting patients, answering phones and working in the addressograph room and at the Eye Clinic desk.

These new projects come in addition to the usual personal services to patients in the clinical laboratories, X-ray and the emergency ward as well as assistance on the patient floors, especially in the Children's Wing. Daily rounds are made with the

coffee cart to refresh patients waiting for clinic visits and with a gift cart as a service to inpatients and their visitors.

Extensive volunteer help also lightened many clerical burdens of extra mailings, report collating and social service surveys.

Along with the regular and junior volunteers the Infirmary also receives the continuing gift of 4,000 hours of volunteer service by 35 members of the Gift Shop Committee of the Ladies Visiting Committee.

As the Infirmary's official hostesses and benefactresses, the Ladies Visiting Committee staged a gala fashion show and luncheon benefit as a primary fund-raising event. This time it was the couturier collection by designer Oscar de la Renta that understandably drew enthusiastic attendance.



After 15 years of successful operation, the gift shop began a new era prompted by plans to move into the new building. Temporarily, the shop was closed to undergo renovations, reopening with a fresh, new look.

To honor Mrs. Varaztad H. Kazanjian, who founded and guided the gift shop through its first decade and a half, at the suggestion of the Ladies Visiting Committee, the Board of Managers at its annual meeting adopted a resolution paying her special tribute. It was also voted to place a suitable plaque in the gift shop in her behalf.

The Ladies Visiting Committee again contributed funds to the Nursing and Social Service Departments permitting scholarships and projects that otherwise would not have been possible.

Volunteer Ruth Shapiro, who gives many more than a hundred hours a year in service at the Infirmary, readies the gift cart for visits to patients' rooms.

Mrs. Edith Lewis, long a one-hundred-hour-plus volunteer, brings hot coffee to clinic patients as a gesture of hospitality.

New chairman of the LVC Gift Shop Committee, Mrs. James I. Summers, puts finishing touches on new-styled window displays.

LVC chairman Mrs. Robert C. Meisel discusses benefit fashion show lunch with LVC secretary Mrs. Calvin King and Benefit Committee chairman, Mrs. Harold F. Schuknecht.



Administration

Administrative bench marks for hospital administration continued to be scored at the Infirmary in 1972. And once again, the new practices instituted here carry potentially far-reaching improvements for the whole hospital industry.

In essence, the paramount new system created here stands out as the first across-the-boards approach to computer-analyzed patient management to be devised in the nation.

Known as MUST, an acronym for Manpower Utilization and Service Time, it is an outgrowth of original scheduling processes pioneered here in 1966. The now conspicuously more sophisticated system basically forecasts admissions and operating schedules on a 42-day advance notice; provides a variety of related day-to-day data; and most importantly, evaluates and assigns patients on a set of terms that balances the workload for nurses throughout the hospital.

Developed in conjunction with a California-based firm, KMB Health Systems Inc., the new system builds in processes whereby new uses can easily be made of the information gathered. In effect, the system "learns as it goes" to provide clues for even better methods of patient care.

In nearly every instance, the key factor within the new system that guides patient placement will be his previewed nursing needs. This, for the first time, makes the heart of the system, the concept of linking scheduling to nurse availability.

All are convinced that this method of interacting computer technology with medicine is an effective new means for bringing about better run medical care institutions.

Of great interest is the system's new capability for predicting what "size" the Infirmary should and can be at any time. "We needn't be locked to any arbitrary number of beds — regardless of how many are really needed — anymore," Infirmary director Charles Wood emphasizes. "We can practically expand and contract at will. Therefore, we can always be operating at 90 or 95 percent of our bed complement, a condition directly related to cost containment. Those of us on the firing



line know that the real hospital cost factors lie in underused personnel and underused hospital beds. Our new computer analysis system, especially when it is geared to our new patient room flexibility, should go far to minimize these traditional cost problems." By design, the system is easily transplantable to any other hospital.

Administratively, personnel management was placed under the aegis of a new Director of Personnel, Leo Simms. Further administrative support saw the addition of two new staff members, Director of Development Hope Green and Administrative Assistant, Margarete Arndt.

The near-completion of the new building posed vast new administrative problems in making the changeover from the old to the new facility early in 1973. Intense and intricate negotiations were required to coordinate turnover time, equipment installation and the move-in process; all in accordance with maintaining smoothly run patient management and without interrupting any services.

Assuming a heightened leadership role in the Massachusetts hospital community, the Infirmary's director was chosen to serve as Chairman-elect of the Mass. Hospital Association representing 180 member hospitals in the state. The MHA conducts many programs to advance more efficient hospital care. Among these are research, disaster and emergency planning, reimbursement, legislative relations, health facilities planning and professional practices.

Charles T. Wood, Director.

Raymond F. Lyons, Associate Director.

James R. Hamill, Assistant Director.

Margarete Arndt, Administrative Assistant.

Hope Green, Director of Development.

Leo L. Simms, Director of Personnel.



Laboratories

All the Infirmary's clinical laboratories compiled a high performance record in terms of both quantity and quality, despite very adverse working conditions and limited space.

Tests in hematology, clinical chemistry, urinalysis and electrocardiograms totalled 53,583 in 1972, a 4,000 test increase! In affiliation with Northeastern University Medical Technician Cooperative Work Study Program, students also began to receive on-the-job training in the Mosher Laboratory, where these tests are performed.

In the Porter Bacteriology section of the laboratory, the numbers of cultures and sensitivity studies performed reached the 10,000 mark last year. This laboratory is one of the few in the country that prepares its own medium, the 'food' on which organisms grow; a practice largely credited with its success rate in detecting virulent pathogens.

Further, the anatomic pathology section handled more than 5,000 tissue specimens for microscopic and gross examinations, consultations from other institutions and frozen section consultations.

Infection prevention in patients undergoing cataract surgery at the Infirmary has set the best record in the nation.

A long-term study completed in 1972 of 36,000 cases of cataract surgery performed here stands out as the largest series of cataract patients ever compiled and the lowest rate of infection ever reported.

Overall the study showed that the use of certain combinations of antibiotics — and the way they were used — reduced post-operative infections in this form of surgery, tenfold. By trying various combinations of antibiotics, a combination was hit upon that was so effective that in the last 15,000 cases, only three patients developed infection.

The Infirmary approach to postcataract infection prevention was devised by Dr. Henry F. Allen, Chief of Ophthalmology, and Infirmary bacteriologist Anita



Mangiaracine, who worked together on the project for a score of years.

Beyond achieving the finest record of such infection prevention ever known, the study also shed light on the primary source of such infections. As had been suspected, the Infirmary study confirmed that it was the patient's own eyelid and conjunctival sac that harbored the infectious agents.

Prevention of such infections is tremendously important, since they can be so treacherous they can cause the loss of an eye. Max L. Goodman, M.D., Director, Otolaryngologic Pathology

Supervisor of the Clinical Laboratories Janis Avallone checks newest method of carbon dioxide determination in clinical chemistry.

Taylor R. Smith, M.D., Director, Ophthalmic Pathology

Dr. Henry F. Allen, chief of Ophthalmology, presented study showing Infirmary achieved highest infection prevention rate in nation following cataract surgery.

Infirmary bacteriologist, Anita Mangiaracine, with rack of culture tubes.



Honors, awards and anniversaries

Individuals and research colleagues were accorded many honors during 1972 in recognition of their professional accomplishments.

Chief of Otolaryngology Dr. Harold F. Schuknecht was awarded the honorary degree of Doctor of Science from his alma mater, the University of South Dakota.

Director of the Infirmary's new Ophthalmic Plastic Surgery Consultation Service Dr. Charles K. Beyer was elected President of the American Society of Ophthalmic Plastic and Reconstructive Surgery. Infirmary retina surgeon Dr. Charles L. Schepens received the Lighthouse Award for Distinguished Service from the New York Association for the Blind.

Additionally, Dr. Schepens and Dr. Hal-McKenzie Freeman, together with Retina Foundation colleagues, were honored for their exhibit "Advances in Vitreous Surgery" at the American Academy of Ophthalmology and Otolaryngology meeting. The exhibit illustrates a new field of eye surgery in which membranes and scar tissue are removed from the vitreous cavity by new methods utilizing miniaturized instruments used while operating under a microscope. These instruments and techniques hold great promise for patients with

detached retinas whose conditions previously were considered hopeless and inoperable because of extensive scarring inside the eye.

At the same meeting an exhibit concerned with the use of soft lenses in the treatment of corneal disease won accolades for Drs. Claes Dohlman, Director of the Cornea Service, and S. Arthur Boruchoff, Medical Director of the New England Eye Bank. Dr. Dohlman also was selected to be the Proctor Lecturer for 1972 at the University of California in San Francisco.

Dr. David G. Cogan, Director of the famed Howe Laboratory of Ophthalmology, a Harvard Medical School department at the Mass. Eye and Ear Infirmary, was appointed to a six-month position as Visiting Scientist at the National Eye Institute within the National Institutes of Health.



One of the Infirmary's most distinguished specialty centers, the Retina Service, celebrated its 25th anniversary in 1972.

The founding of this service marked the advent of a new era in the advancement of eye surgery.

The Retina Service is worldrenowned as the center that pioneered the sub-specialty of retina surgery. Here, equipment was developed that opened the way to modern inner eye examination. Surgical techniques, also, were formulated and refined that revolutionized treatment of retinal disorders.

Of far-reaching and immeasurable value, too, is the Retina Service's contribution to the training of retina specialists. Over the years the Retina Service has served as the training base for hundreds of

retina specialists. These alumni now comprise a whole generation of retina specialists who have gone out and organized other retina centers across the nation and the world.

In 1972, Infirmary director Charles Wood was elected to the Council of Regents of the American College of Hospital Administrators. As Regent, he represents the College membership in Massachusetts for a three year term.

New professional honors were bestowed on the Infirmary director of Operating Room Services Mary Fehlau, R.N., who was elected vice-president of the National Association of Operating Room Nurses, Inc. Dr. Harold F. Schuknecht, chief of Otolaryngology, awarded honorary degree.

Dr. Charles K. Beyer elected president of the American Society of Ophthalmic Plastic and Reconstructive Surgery.

Registrar for the Retina Service 25th Anniversary Congress, Dr. Charles D. J. Regan, acting chief of ophthalmology at the Infirmary.

Dr. David G. Cogan, appointed Visiting Scientist at National Institutes of Health.



Surgery

It is in surgery, the Infirmary's strongest specialty forte, that the lines between patient care and advances in research most strongly converge.

Nearly 100 percent of the Infirmary's patients undergo surgery. In 1972, however, the trend toward more esoteric surgery sharply accelerated. Far more procedures were performed that employed techniques available only at the very forefront of our specialties.

Typifying this kind of frontline surgical progress is the continuing clinical research on methods of creating a new voice for patients who have lost their voice box due to disease or injury. By reconstructing neck and throat tissue, an even better form of substitute voice is being achieved. Such voice restoration now has been accomplished in 50 patients. Further, throughout the year,

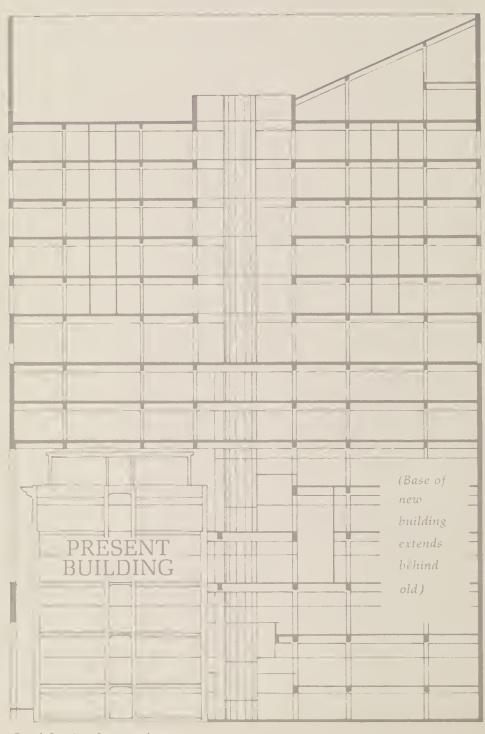
adaptations and refinements in the surgical technique have steadily improved the final quality of the substitute voice.

Via a different form of surgery, severely disabling injuries of the trachea (windpipe) and larynx (voice box) also now can be surgically repaired far more successfully than ever before. This improvement has come about largely due to the development here of unique forms of prosthetic devices. These inserts and molds now make it possible to induce the larynx and trachea to heal back into nearly normal shape, while at the same time preventing constriction of the passageways. Unfortunately, the need for such reconstructive surgery is greater than in previous decades due to the rise in serious fractures of these inner neck structures during automobile, motorcycle and snowmobile accidents.

Eye Resident David Campbell.

Dr. William W..Montomery (right), whose reconstructive neck and throat surgery is pioneering techniques for the restoring of speech to patients who have lost their voice boxes due to disease or injury.





*2nd Floor Future ENT Clinics

*1st Floor Cornea Clinic

†13th Floor ENT Patients 38 beds

†10th Floor Retina Patients 36 beds

†8th Floor Dining Room/Kitchen

†5M Maintenance Department

*5th Floor Future EYE Research Floor

†4th Floor Eaton Peabody Laboratory

*3rd Floor Accounting/Computer Room

†12th Floor Eye and Ear ENT Patients 38 beds

†11th Floor Eye Patients/Pediatric (18) 42 beds

*9th Floor Admitting/Clinical Lab/Social Services
Nursing Office/Administration

†7th Floor Doctor and Nurses Lounges/Locker Rooms Radiology/Central Supply

†6th Floor 10 Operating Rooms/Recovery Room

of Auditory Physiology

tGround Floor
Linen Room/Housekeeping
Emergency Rooms/Telephone
Minor Surgery Rooms/Mail Room

*Grand Opening, Summer of 1973

tOpening March

Trustees

(Dates indicate year of appointment)

1925	Hon. Leverett Saltonstall	1967	Paul A. Chandler, M.D.
1929	Walter H. Trumbull ¹ — honorary	1967	Edwin B. Dunphy, M.D.
	<i>—</i> 1972	1967	Mrs. Bartlett Harwood
1934	Robert F. Bradford	1967	Henry G. Lapham
1935	William A. Parker	1967	John M. Lord
1940	Mrs. Richard Cary Curtis	1967	LeRoy A. Schall, M.D.
1940	Horace W. Frost	1967	William F. Spang
1942	Hon. Edmund V. Keville ²	1967	Monte J. Wallace
1943	Frederick Winthrop — honorary	1968	Colin McA. Cunningham
1945	Mrs. Sullivan A. Sargent	1968	W. Clement Stone — honorary
1947	William H. Claflin, III	1969	Richard W. Young, Ph.D.
1948	The Rev. Robert G. Metters	1970	Ephron Catlin
1948	August R. Meyer	1970	Mrs. Frederick S. Moseley
1948	Miss Amelia Peabody	1970	Mrs. Frederick R. H. Witherby
1949	Nathaniel Faxon, M.D. ³	1971	Mrs. Thaddeus R. Beal
1951	Francis W. Hatch, Jr.	1971	Avram J. Goldberg
1951	George L. Pew	1971	Frank L. Harrington, Jr.
1951	Howland S. Warren	1971	Robert C. Jordan
1951	Melville Chapin	1971	Mrs. Robert C. Meisel
1951	Henry K. Porter	1971	Arthur F. F. Snyder⁴
1952	George A. McLaughlin	1971	Robert D. Williams
1953	Mrs. Varaztad H. Kazanjian	1972	Matthew J. Burns
1955	Richard P. Chapman	1972	Leo H. Daley
1955	William Ehrlich	1972	Mrs. William B. Ellison
1955	Weston Howland, Jr.	1972	John U. Harris
1957	William L. Saltonstall	1972	Richard Harte
1963	Thomas B. Frost		
1963	John S. Howe		ned September 20, 1972
1963	Frederick H. Lovejoy		ned December 6, 1972 sed June 16, 1972
1963	Thomas Allsop		ned October 16, 1972
1965	George M. Lovejoy, Jr.		
1965	Mrs. John Lowell		
1965	Frederick C. Rozelle, Jr.		
1966	Francis S. Hill		
1966	Robert Bacon		
1966	James I. Summers		
1966	Leo F. Daley		

Statistical Highlights

In-Patient Hospital (176 Beds)	ADMISSIONS:	1972	1971
	Eye Patients	6,231	6,114
	E.N.T. Patients	4,407	4,886
	Total Admissions	10,638	10,980
	OPERATIONS:		
	By Eye House Staff	1,251	1,217
	By Eye Attending Staff	5,233	5,084
	Total Eye Operations	6,484	6,301
	By E.N.T. House Staff	1,212	1,573
	By E.N.T. Attending Staff	2,757	2,825
	Total E.N.T. Operations	3,969	4,398
	Total Operations	10,453	10,699
	DISCHARGES:	10,695	10,978
	Death	4	9
	Autopsies	25%	44%
	PATIENT DAYS	54,138	55,507
	AVERAGE PATIENT CENSUS	148	153
	AVERAGE LENGTH OF STAY	5.09 days	5.06 days
	BED UTILIZATION	84%	87%
Out-Patient Department	EYE CLINIC		
	Total Eye Visits	62,868	62,723
	E.N.T. CLINIC	,	,-
	Total E.N.T. Visits	25,327	23,921
	Total O.P.D. Visits	88,195	86,644
Emergency Ward	Eye Cases	16,421	15,641
	E.N.T. Cases	11,403	10,942
	Total	27,824	26,583
Minor Surgery	Eye Cases	1,671	1,683
	E.N.T. Cases	1,113	1,162
	Total	2,784	2,845
Special Services	Audiology Cases	9,181	9,040
	Electroretinography Cases	358	235
	Fluorescein Angiography Cases	1,077	464
	Otoneurology Cases	425	307
to the second			

Financial Statement

Balance Sheet	Assets		
September 30, 1972	Cash		\$ 2,058,045
	Investments — at cost		
	Cash in savings bank accounts	110,000	
	Marketable securities (quoted market value		
	\$13,789,307)	7,627,174	7,737,174
	Accounts Receivable	2,046,421	
	Less allowance for doubtful receivables	234,265	1,812,156
	Inventories — at average cost		62,467
	Prepaid expenses		21,399
	Unamortized pension costs		41,818
	Plant and equipment — at cost	2 520 224	
	Buildings	3,728,294	
	Furniture, fixtures and equipment	881,498	
		4,609,792	
	Less accumulated depreciation	2,490,389	
		2,119,403	
	Land	4,701	2,124,104
	Construction in progress		17,996,070
			\$31,853,233
	Liabilities and Fund Balances		
	Note Payable — bank, unsecured		\$2,500,000
	Mortgage Loan		4,990,549
	Accounts Payable		309,970
	Payroll taxes and other withholdings payable		84,308
	Accrued payroll, payroll taxes and other expenses		109,159
	Reserves for contractual adjustments		189,691
	Fund balances		
	Temporary funds	740,864	
	Special funds	5,097	
	Special purpose funds	1,607,783	
		2,353,744	
	Unexpended restricted income of permanent funds	439,840	
	General fund	1,084,253	
	General Pension Reserve	2,019,505	
	Permanent funds — income restricted	1,628,036	
	Permanent funds — income unrestricted	2,853,576	
	Undistributed security gains on pooled		
	investments	414,554	
	Funds invested in plant	2,124,104	
	Plant depreciation fund	162,118	
	Building fund	10,589,826	23,669,556
			\$31,853,233

Financial Statement (continued)

Condensed Income Account Year Ended September 30, 1972	Gross Charges for Services to Patients Adjustments to Gross Charges: Allowances to patients Allowances to contracting agencies Provision for uncollectible accounts	\$441,546 112,342 325,270	\$8	879,158
	Net Revenue from Services to patients Other Operating Revenue	323,270	\$8	3,110,853 351,656
	Total Operating Revenue Hospital Operating Expenses (including provision		8	3,462,509
	for depreciation)		8	,887,270
	Hospital Operating Loss Donated Income			424,761
	United Community Services Various Estates	3,812 22,900		26,712
	Hospital Net Loss from Operations		\$	398,049
Summary of Investment Income September 30, 1972	Total Investment Income Operating Loss			293,565 398,049
	Net Deficit		\$	104,484

The above condensed financial statements have been abstracted from the Auditors' Report of Alexander Grant & Company, which is on file and available for inspection by interested parties.

Committees

Executive

William H. Claflin, III, Chairman Ephron Catlin
Melville Chapin
Frederick H. Lovejoy
George M. Lovejoy, Jr.
Mrs. John Lowell
George A. McLaughlin
Mrs. Robert C. Meisel
Charles D. J. Regan, M.D.
Harold F. Schuknecht, M.D.
Charles T. Wood, Secretary

Finance

Ephron Catlin Melville Chapin William H. Claflin, III Thomas B. Frost William A. Parker

Building

William H. Claflin, III, Chairman Ephron Catlin
Melville Chapin
Frederick H. Lovejoy
George M. Lovejoy, Jr.
Mrs. John Lowell
George A. McLaughlin
Mrs. Robert C. Meisel
Charles D. J. Regan, M.D.
Harold F. Schuknecht, M.D.
Charles T. Wood, Secretary

Research

Richard W. Young, Ph.D., Chairman Adelbert Ames, III, M.D. John E. Dowling, M.D. Ephraim Friedman, M.D. Ralph G. Meader, Ph.D. Charles T. Wood, Executive Secretary

Human Studies

Robert Williams, Chairman Max L. Goodman, M.D. W. Morton Grant, M.D. Robert S. Kimura, B.A. Ralph G. Meader, Ph.D. Charles D. J. Regan, M.D. Harold F. Schuknecht, M.D. Richard Thoft, M.D. Charles T. Wood Margarete L. Arndt, Secretary

Library

Abraham Pollen, M.D., Chairman
Harold Bloomquist
David G. Cogan, M.D.
Edwin B. Dunphy, M.D.
Merle Fainsod, Ph.D.
Thomas Hutchinson, M.D.
Robert S. Kimura, B.A.
Moses H. Lurie, M.D.
Harold F. Schuknecht, M.D.
Charles D. J. Regan, M.D.
Charles Snyder, Secretary and Librarian
Francis J. West, M.D.
Charles T. Wood

Archives

Moses H. Lurie, M.D. Charles Snyder, *Archivist* Francis J. West, M.D. Charles T. Wood

Salary

Ephron Catlin Melville Chapin William H. Claflin, III Charles T. Wood

Personnel and Pension

Henry K. Porter, Chairman Melville Chapin Raymond W. Lyons George A. McLaughlin Leo L. Simms Charles T. Wood

Social Service Advisory

Henry K. Porter, Chairman
Barbara E. Czechowski, R.N.
Mrs. Barbara J. Dawson
Ruth Farrisey, R.N.
Gault M. Farrell, M.D.
James R. Hamill
Mrs. Edgar Kent
Mrs. John Lowell
Moses H. Lurie, M.D.

Henry A. Mosher, M.D. Thomas J. Mulvaney, M.D. Miss Kathleen O'Donoghue Charles D. J. Regan, M.D. Madeline S. Shipsey Richard Thompson, Ph.D. Alfred D. Weiss, M.D. Charles T. Wood

Accreditation

Charles T. Wood, Chairman Margarete L. Arndt Barbara E. Czechowski, R.N. Walter Foegelle Max L. Goodman, M.D. Iames R. Hamill Francis S. Hill Thomas Keenan, M.D. Herbert Kirshnit Robert Lofgren, M.D., ex officio Raymond W. Lyons August R. Meyer Charles D. J. Regan, M.D. Harold F. Schuknecht, M.D. Madeline S. Shipsey Taylor R. Smith, M.D. Charles Snyder John Webb Sidney Wilker

Animal Farm

John W. Irwin, M.D., Chairman Alan Bachrach, Jr., V.M.D. Claes H. Dohlman, M.D. Cecil Drinker Raymond W. Lyons, Secretary Edgar B. Taft, M.D.

Medical Staff

(All listings are as of December 6, 1972)

Ophthalmology

Active staff
Acting Chief of Ophthalmology
Charles D. J. Regan, M.D.

Surgeons in Ophthalmology
Claes-Henrick Dohlman, M.D.
W. Morton Grant, M.D.
Sumner D. Liebman, M.D.
Abraham Pollen, M.D.
Charles D. J. Regan, M.D.
Karl Riemer, M.D.
Alfred W. Scott, M.D.
Earl S. Seale, M.D.
Taylor R. Smith, M.D.

Associate Surgeons in Ophthalmology
D. Robert Alpert, M.D.
S. Arthur Boruchoff, M.D.
Robert J. Brockhurst, M.D.
Thomas P. Cronin, M.D.
David D. Donaldson, M.D.
Warren D. Haley, M.D.
Ichiro D. Okamura, M.D.
David H. Scott, M.D.

Assistant Surgeons in Ophthalmology Lloyd M. Aiello, M.D. Frederick B. Breed, M.D. John M. Carroll, M.D. Richard F. Chapman, M.D. Hal-McKenzie Freeman, M.D. Carl G. Freese, Jr., M.D. Stephen J. Fricker, M. D. George E. Garcia, M.D. John R. Gehring, M.D. Ralph H. Hinckiey, M.D. Roland E. Houle, M.D. Thomas B. Hutchinson, M.D. Robert C. Lawlor, M.D. Byron S. Lingeman, M.D. J. Wallace McMeel, M.D. George M. Olive, M.D. Irving L. Pavlo, M.D. Robert A. Peterson, M.D. Richard M. Robb, M.D. Perry Rosenthal, M.D. Baruch J. Sachs, M.D. Richard J. Simmons, M.D. Donald Weis, M.D. Michael Wiedman, M.D.

Assistants in Ophthalmology
Robert A Bellows, M.D.
Eliot L. Berson, M.D.
Charles K. Beyer, M.D.
Don Carl Bienfang, M.D.
Leo T. Chylack, M.D.
Eugene C. Ciccarelli, M.D.
Robert A. d'Iorio, M.D.
Elliot M. Finkelstein, M.D.
Albert R. Frederick, M.D.
Alexander R. Gaudio, M.D.
Robert A. Gorn, M.D.
Arthur S. Grove, M.D.*
Paul D. Hurley, M.D.

Eric Johnson, M.D.** Joseph C. Kim, M.D. Robert S. L. Kinder, M.D. Mohandas M. Kini, M.D. Joel A. Kraut, M.D. Arnold J. Kroll, M.D. Brent W. Lambert, M.D. Deborah P. Langston, M.D. Eva Martola, M.D. Ernest J. Meyer, M.D. Joseph Michon, M.D. David Miller, M.D. Peter B. Mooney, M.D. Silvio R. Pirquet, M.D. Ronald C. Pruett, M.D. Gerald D. Rogell, M.D. John G. Sebestyen, M.D. Harvey H. Slansky, M.D. Richard H. Thoft, M.D. Felipe I. Tolentino, M.D. David S. Walton, M.D. Shirley Wray, M.D.***

* Leave of absence ** As of 1/1/73 *** Neuro-Ophthalmology

Consulting Chiefs of Ophthalmology
Henry F. Allen, M.D.
Paul A. Chandler, M.D.
David G. Cogan, M.D.
Edwin B. Dunphy, M.D.

Senior Consulting Surgeons
William P. Beetham, M.D.
Harry E. Braconier, M.D.
Virgil Casten, M.D.
Joseph M. Clough, M.D.
Mahlon T. Easton, M.D.
Trygve Gundersen, M.D.
Carl C. Johnson, M.D.
Brendon D. Leahey, M.D.
Henry A. Mosher, M.D.
Charles L. Schepens, M.D.
Albert E. Sloane, M.D.
Garrett L. Sullivan, M.D.
Francis J. West, M.D.

Senior Consulting Ophthalmic Pathologist Parker Heath, M.D.

HONORARY STAFF
Associate Surgeons in Ophthalmology
John M. Hill, M.D.
Charles H. MacLaughlin, M.D.
Assistant Surgeons in Ophthalmology
Julian F. Chisholm, M.D.
Linley C. Happ, M.D.
Arthur M. Morrissey, M.D.
Bertha Offenbach, M.D.
Paul M. Runge, M.D.
Glaucoma Consultation Service

Glaucoma Consultation Service
W. Morton Grant, M.D., Director
Cornea Service
Claes H. Dohlman, M.D., Director

Ocular Motility Clinic
Stephen J. Fricker, M.D., Director
Corneal Contact Lens Clinic
Perry Rosenthal, M.D., Director
Ophthalmic Pathology
Taylor R. Smith, M.D., Director

Associate staff — ophthalmology Assistant in Ophthalmology Edward Murphy, M.D.

RESIDENTS IN OPHTHALMOLOGY Steven N. Benjamin, M.D. David G. Campbell, M.D. Robin B. Cook, M.D. Richard Dallow, M.D. Gault M. Farrell, M.D. Richard P. Floyd, M.D. Mitchel Friedlaender, M.D. David A. Hill, M.D. William S. Holt, M.D. Jay H. Kaufman, M.D. Robert P. Lacy, M.D. James R. Lee, M.D. Raymond Liggio, M.D. Michael F. Marmor, M.D. James P. McCulley, M.D. Roger Ohanesian, M.D. David G. Perkins, M.D. Donald W. Putnoi, M.D. Daniel W. Tolpin, M.D. David M. Tracy, M.D. George A. Violin, M.D. Martin Wand, M.D.

Clinical Fellows in Ophthtalmology Afzal Ahmad, M.D. Richard Appen, M.D. John C. Barber, M.D. John Bracken, M.D. Suresh R. Chandra, M.D. Muhammad Chisti, M.D. Ian J. Constable, M.D James M. Gordon, M.D. David Greenseid, M.D. Tatsuo Hirose, M.D. Felipe Huamonte, M.D. Allan David Jensen, M.D. Eric Johnson, M.D. Danny H. Kaufman, M.D. Roger H. Langston, M.D. Jaime V. Lapus, M.D. Gilles Marcil, M.D. Leslie W. Nesmith, M.D. Alan J. Norton, M.D. Robert A. Ralph, M.D. Harold A. Schneider, M.D. Hidenao Toyofuku, M.D. Clement Trempe, M.D. Keith M. Zinn, M.D.

New England Eye Bank Nancy Viano Brown, **Executive Director** S. Arthur Boruchoff, M.D., Medical Director

Executive Committee Jules L. Baum, M.D. David G. Cogan, M.D. Mrs. Richard Cary Curtis Claes H. Dohlman, M.D. Weston Howland, Jr.* Brendan D. Leahey, M.D. Howard M. Leibowitz, M.D. Mrs. William A. Slade, Jr. * Resigned effective June 6, 1972

Medical Staff Executive

Karl Riemer, M.D., Chairman Thomas P. Cronin, M.D. Claes Henrick Dohlman, M.D. Thomas Klein, M.D. John M. Kurkjian, M.D. John E. McKeigue, M.D. Charles D. J. Regan, M.D. Harold F. Schuknecht, M.D. Richard Simmons, M.D. Bernard Zonderman, M.D. Charles T. Wood

Otolaryngology

ACTIVE STAFF

Chief of Otolaryngology Harold F. Schuknecht, M.D.

Surgeons in Otolaryngology Alfred L. Hurst, M.D. Robert E. Klotz, M.D. Donald K. Lewis, M.D. John E. McKeigue, M.D. Daniel Miller, M.D. William W. Montgomery, M.D. Sidney K. Wilker, M.D.

Associate Surgeons in Otolaryngology

Yale J. Berry, M.D. Allan G. Edwards, M.D. Richard R. Gacek, M.D. Louis E. Griffey, M.D. William L. Hayden, M.D. Geza Jako, M.D. Roy A. Johnson, M.D. Thomas E. Klein, M.D. John M. Kurkjian, M.D. Robert E. Lofgren, M.D. Aram Roopenian, M.D.**

** Plastic Surgery

Assistant Surgeons in Otolaryngology Charles W. Cummings, M.D. C. Edward Jackson, M.D. Donald G. Keamy, M.D. David L. Pierce, M.D. John D. Trakas, M.D. Albert Weiser, M.D.

Assistants in Otolaryngology David Burtner, M.D. Vincent G. Caruso, M.D. Robert V. Cheren, M.D. Robert P. Cipro, M.D. Howard M. Ecker, M.D.** Richard L. Fabian, M.D. Clarence E. Kylander, M.D. Carl M. Lieberman, M.D. David Metzner, M.D. Pierre B. Montandon, M.D. Stephen Parker, M.D.* Rufus C. Partlow, M.D. Alfred D. Weiss, M.D.*

* Otoneurology ** Plastic Surgery

Subdivision of Plastic Surgery Howard M. Ecker, M.D., **Ass**istant in Plastic Surgery Aram Roopenian, M.D., Associate Surgeon

Subdivision of Otoneurology Alfred D. Weiss, M.D., Director Stephen Parker, M.D., Āssistant in Otoneurology

Subdivision of Otolaryngologic Pathology

Max L. Goodman, M.D., Director

Tumor Clinic

Daniel Miller, M.D., Director

Endoscopy Service

William W. Montgomery, M.D., Director

Esophageal Voice Classes

Mrs. Paul A. Doehler, Director

Consulting Chief of Otolaryngology LeRoy Schall, M.D.

Senior Consulting Surgeons in

Otolaryngology

Frederick L. Bogan, M.D. Walter J. D. Carroll, M.D. Charles J. Drooker, M.D. Carl H. Ernlund, M.D. Maurice G. Evans, M.D. John R. Frazee, M.D. Robert L. Goodale, M.D. Edgar M. Holmes, M.D. Varaztad H. Kazanjian, M.D.** Vincent J. Kelley, M.D. Moses Lurie, M.D. John R. Richardson, M.D. Francis Weille, M.D. Bernard Zonderman, M.D.

** Plastic Operations

HONORARY STAFF

Associate Surgeons in Otolaryngology Charles Kent, M.D. Herman J. Sternstein, M.D.

Assistant Surgeon in Otolaryngology Elizabeth DeBlois, M.D.

Assistants in Otolaryngology Frank W. Brady, M.D. Morris Swartz, M.D.

ASSOCIATE STAFF

Associate Surgeons in Otolaryngology Werner D. Chasin, M.D. Robert Wayne Clubb, M.D.

RESIDENTS IN OTOLARYNGOLOGY Burlin H. Ackles, M.D. Robert V. Fulk, M.D. Allan J. Goldstein, M.D. Edward E. Jacobs, M.D. Ely A. Kirschner, M.D. Andrew W. Klein, M.D. William G. Lavelle, M.D. Jon B. Liland, M.D.

William W. McClerkin, M.D. Steven A. Metzger, M.D.

Thomas J. Mulvaney, M.D.

Joseph B. Nadol, M.D. Angelo J. Pappanikou, M.D.

John J. Schwarz, M.D.

Robert A. Sofferman, M.D. Stephen A. Smith, M.D.

Ernest A. Weymuller, M.D. Robert E. Whited, M.D.

Research Staff

Common to Both Services

DEPARTMENT OF ANESTHESIA

Acting Chief of Anesthesiology Thomas J. Keenan, M.D.

Assistant Anesthesiologists

Martha H. Danis, M.D. James A. Jovenich, M.D.

Audrey A. Lewis, M.D. Assistants in Anesthesiology

Lambertus Drop, M.D. Jin Woo Kim, M.D.

Fatin Onat, M.D.

Ismail Seda Sensel, M.D.

Fellows in Anesthesiology

Dipak Roy, M.D. Eduardo Mancini, M.D.

RADIOLOGY

Director of Radiology

Alfred Weber, M.D.*

Alexander S. Macmillan, Jr., M.D.** Walter Foegelle, Chief Radiological Technician

* as of 1/1/73 ** Acting Director until 12/31/72

Radiologist

Alexander S. Macmillan, Jr., M.D.*

Consultants in Radiology

Milford Schulz, M.D.

Herman D. Suit, M.D.

Chiu-Chen Wang, M.D.

Internal Medicine

Richard Field, M.D., Consultant

Microbiology

Anita Mangiaracine, A.B.,

Microbiologist

Supervisor of Clinical Laboratories

Janis Avallone

The members of the medical staff of the Massachusetts General Hospital are consultants to the Infirmary, and in this capacity become a part of the consulting staff of the Massachusetts Eye and Ear Infirmary.

Department of Ophthalmology

Howe Laboratory of Ophthalmology

David G. Cogan, M.D. W. Morton Grant, M.D.

Jin H. Kinoshita, Ph.D.

Toichiro Kuwabara, M.D.

David D. Donaldson, M.D.

Stephen J. Fricker, M.D.

Shirley H. Wray, M.D.

A. Robert Bellows, M.D.

Don C. Bienfang, M.D.

Leo T. Chylack, Jr., M.D.

Judith A. Jedziniak, Ph.D. Donovan J. Pihlaja, Ph.D.

Henry N. Fukui, Ph.D.

Cecil K. Drinker, A.B.

Charles Snyder, Librarian

Special Fellows

Richard E. Appen, M.D.

Stephen R. Deppermann, M.D.

David L. Epstein, M.D.

Edmund M. van Buskirk, M.D.

Retina Service

Ernst G. Wolf, Ph.D.,

Research Associate

Laboratory for the Study of

Retinal Degenerations

Eliot L. Berson, M.D., Director

Department of Otolaryngology

Eaton Peabody Laboratory of Auditory Physiology

Director of Eaton Peabody Laboratory Nelson Y. S. Kiang, Ph.D.

Research Associates,

Eaton Peabody Laboratory

Donald K. Morest, M.D.

Walter A. Rosenblith, Ing. Rad.

William T. Peake, Sc.D.

Thomas F. Weiss, Ph.D.

Michael J. Mulroy, Ph.D.

John J. Guinan, Jr., Ph.D.

Steven H. Colburn, Ph.D.

Julius Goldstein, Ph.D.

Research Fellows,

Eaton Peabody Laboratory

Joe C. Adams, Ph.D.

Lothar U. E. Kohllöffel, Ph.D.

Research Assistants in

Eaton Peabody Laboratory

Terrance Bourk, M.D.

Eileen Cohen Kane, Ph.D.

Don H. Johnson, E.E.

M. Charles Liberman, B.A.

Norman Megill, B.S.

Edwin C. Moxon, Ph.D.

Victor Nedzelnitsky, E.E.

Research Support Engineers, Eaton Peabody Laboratory

David Altmann, B.A.

Joseph Onorato, B.S.

Alan H. Crist, B.S.

Microcirculatory Laboratory

John W. Irwin, M.D.

Histopathology Laboratory

Harold F. Schuknecht, M.D.

William W. Montgomery, M.D.

Richard R. Gacek, M.D.

Electron Microscopy Laboratory Research Associate

Robert S. Kimura, B.A.

Clinical and Research Fellows

Abdel-Aziz Belal, M.D.

Terence Stewart, M.D.

Research Fellows

Lothar Kohllöffel, M.D.

Kozo Watanuki, M.D.

Harvard Medical School Faculty Department of Ophthalmology

Henry Willard Williams Clinical Professor of Ophthalmology and Head of the Department Henry F. Allen, M.D. Professors of Ophthalmology David G. Cogan, M.D. W. Morton Grant, M.D. Professor of Biochemical Ophthalmology Jin H. Kinoshita, Ph.D. Professor of Pathology in the Department of Ophthalmology Toichiro Kuwabara, M.D. Associate Professors of Ophthalmology Claes Henrick Dohlman, M.D. David D. Donaldson, M.D. Charles D. J. Regan, M.D. Associate Clinical Professors of Ophthalmology Taylor R. Smith, M.D. Carl C. Johnson, M.D. Assistant Professors of Ophthalmology Eliot L. Berson, M.D. Stephen J. Fricker, M.D. David Miller, M.D. Richard M. Robb, M.D. Assistant Professor of Biomedical Ophthalmology Liane Reif-Lehrer, Ph.D. Assistant Clinical Professors of Ophthalmology S. Arthur Boruchoff, M.D. Robert J. Brockhurst, M.D. H. MacKenzie Freeman, M.D. B. Thomas Hutchinson, M.D. J. Wallace McMeel, M.D. Alfred W. Scott, M.D. Richard J. Simmons, M.D. Albert E. Sloane, M.D. Clinical Associate in Ophthalmology Sumner D. Liebman, M.D. Lecturers on Ophthalmology Endre A. Balazs, M.D. Bernard J. Hodgkinson, M.B., B.S. Abraham Pollen, M.D. Garrett L. Sullivan, M.D. Associates in Ophthalmic Research Cecil K. Drinker, A.B. Henry N. Fukui, Ph.D. Associate in Ophthalmology (Electrical Engineering) Arnold R. Rabin, M.S., E.E. Instructors in Ophthalmology Arnold R. Bellows, M.D. Don Carl Beinfang, M.D. Leo T. Chylack, Jr., M.D. Robert A. Petersen, M.D.

David S. Walton, M.D.

Instructor in Ophthalmic Research Donovan J. Pihlaja, Ph.D. Clinical Instructors in Ophthalmology Lloyd M. Aiello, M.D. D. Robert Alpert, M.D. Charles K. Beyer, M.D. Harry E. Braconier, M.D. Frederic B. Breed, M.D. John M. Carroll, M.D. Richard B. Chapman, M.D. Eugene C. Ciccarelli, M.D. Thomas P. Cronin, M.D. Elliot M. Finkelstein, M.D. Albert R. Frederick, M.D. Carl G. Freese, M.D. George Edward Garcia, M.D. John R. Gehring, M.D. Ralph H. Hinckley, M.D. Roland E. Houle, M.D. Judith A. Jedziniak, Ph.D. Deborah Pavan-Langston, M.D. Robert C. Lawlor, M.D. Byron S. Lingeman, M.D. Henry A. Mosher, M.D. George M. Olive, Jr., M.D. Ronald C. Pruett, M.D. Karl Reimer, M.D. Perry Rosenthal, M.D. Baruch J. Sachs, M.D. David H. Scott, M.D. Earle S. Seale, M.D. Harvey H. Slansky, M.D. Richard A. P. Thoft, M.D. Donald R. Weis, M.D. Jeremy B. Whitney, M.D. Michael Wiedman, M.D. Clinical Assistants in Ophthalmology Robert A. Gorn, M.D. Joseph C. Kim, M.D. Mohandas M. Kini, Ph.D., M.D. Joel A. Kraut, M.D. Irving L. Pavlo, M.D. Gerald D. Rogell, M.D. John G. Sebestyen, M.D. Research Fellows in Ophthalmology Richard E. Appen, M.D. Stephen R. Deppermann, M.D. David L. Epstein, M.D. Yasuna Hamai, M.D. Leathem Mehaffey, III, Ph.D. Teaching Fellows in Ophthalmology Richard L. Dallow, M.D. George A. Violin, M.D. Clinical Fellows in Ophthalmology Gault M. Farrell, M.D. Richard P. Floyd, M.D.

James R. Lee, M.D., C.M.

Michael F. Marmor, M.D.

James P. McCulley, M.D.

Roger V. Ohanesian, M.D.

Harvard Medical School Faculty Department of Otolaryngology

Walter Augustus LeCompte Professor of Otology, Professor of Laryngology Harold Frederick Schuknecht, M.D.

Professor of Otolaryngology
William Wayne Montgomery, M.D.

Associate Professors of Otolaryngology Richard Raymond Gacek, M.D. Daniel Miller, M.D.

Assistant Professors of Otolaryngology
Burton Frederick Jaffe, M.D.
Pierre Blaze Montandon, M.D.
Marshall Strome, M.D.
Charles William Cummings, M.D.
Robert Harding Lofgren, M.D.

Assistant Professor of Neurology Alfred David Weiss, M.D.

Assistant Professor of Pathology
Max Lawrence Goodman, M.D.

Instructor in Otolaryngology (Otoneurology)

Stephen William Parker, M.D.

Clinical Instructor in Otolaryngology
Hugo Angelini, M.D.
Yale Joel Berry, M.D.
David Daniel Burtner, M.D.
Robert Wayne Clubb, M.D.
Allen Greer Edwards, Jr., M.D.
Charles Ferguson, M.D.
Louis Griffey, M.D.
William Lee Hayden, M.D.
Alfred Lionel Hurst, M.D.

Caesar Edward Jackson, M.D. Roy Allen Johnson, M.D. Thomas Klein, M.D.

Robert Eugene Klotz, M.D. John Melkon Kurkjian, M.D. Clarence Edward Kylander, M.D.

Donald King Lewis, M.D.

Carl Marcus Lieberman, M.D.

John Edward McKeigue, M.D. David Mark Metzner, M.D.

Rufus Cornelius Partlow, Jr., M.D.

Aram Roopenian, M.D. Sidney Wilker, M.D.

Bernard Zonderman, M.D.

Lecturers on Otolaryngology
Werner David Chasin, M.D.
Robert Shigetsugu Kimura, B.S.
Walter Altar Rosenblith, Ph.D.

Principal Associates in Otolaryngology John Wellington Irwin, M.D. Nelson Yuan-sheng Kiang, Ph.D. Edwin Charles Moxon, Ph.D.

Research Fellows in Otolaryngology
A. Aziz Belal, M.D.
Terence James Stewart, F.R.C.S.
Kozo Watanuki, M.D.

Clinical Fellows in Otolaryngology
Robert Vernon Fulk, M.D.
Jon Brynjulv Liland, M.D.
William Webster McClerkin, M.D.
John Henry Schwarz, M.D.
Stephen Anthony Smith, M.D.
Ernest Alfred Weymuller, M.D.

Publications

October 1, 1971 — September 30, 1972

Administration Department

McLAUGHLIN, Loretta McD.: "Conference on Successful Women in the Sciences: An Analysis of Determinants. Summary and Analysis. III. Economic Factors as Determinants." New York Academy of Sciences. May 11, 12, 13, 1972.

Department of Otolaryngology Surgical and Research Staffs

- Baer, T. (See GOLDSTEIN, J. L.)
- *GACEK, Richard R.: "Anatomical Demonstration of the Vestibulo-Ocular Projections in the Cat." Laryngoscope 81:1559-1595, Oct. 1971. Also in: Acta Otolaryngol. Suppl. 293: 1-63, 1972.
- GACEK, Richard R.: "Neuroanatomy of the Auditory System." Chapter in: Foundations of Modern Auditory Theory. Vol. II. Edited by J. Tobias. New York, Academic Press. 1972.
- Gacek, Richard R. (See Goodman, M. L.; MILLER, D.; WALSH, B. T.)
- GAMBILL, Joan S., Goodman, M. L. and Irwin, J. W.: "The Inflammatory Process and the 'Glue' Ear." Biochem. Exper. Biol. 10: 33-37, 1972.
- GOLDSTEIN, J. L., Baer, T. and Kiang, N. Y-s.: "A Theoretical Treatment of Latency, Group-Delay and Tuning Characteristics for Auditory-Nerve Responses to Clicks and Tones." Chapter in: The Physiology of the Auditory System. Edited by M. B. Sachs. Baltimore. National Educational Consultants, Inc. 1971. pp. 133-141.
- Goldstein, J. L. (See HOUTSMA, A. J. M.)
- GOODMAN, Max L. and Laforet, E. C.: "Solitary Primary Chemodectoma of the Lung." Chest 61:48-50, Jan. 1972.
- Goodman, Max L., KADISH, S. P. and Wang, C. C.: "Treatment of Minor Salivary Gland Malignancies of Upper Food and Air Passage Epithelium." Cancer 29:1021-1026, April 1972.
- Goodman, Max L., SCHANTZ, A. and Miller, D.: "Papillary Hyperplasia of the Lingual Tonsil. Report of a Case." Arch. Otolaryngol. 95:272-273, March 1972.
- Goodman, Max L., HOUSE, J. M., et al: "Chemodectomas of the Nasophar-ynx." Arch. Otolaryngol. 96:138-141, Aug. 1972.
- Goodman, Max L. (See GAMBILL, J. S.)

- HOUTSMA, A. J. M. and Goldstein, J. L.: "Perception of Musical Intervals; Evidence for the Central Origin of the Pitch of Complex Tones." Technical Report no. 484, Research Laboratory of Electronics, M.I.T., Oct. 1, 1971.
- IRWIN, John W., Nims, J. C. and Farnham, A. B.: "Viruses and Inflammation." Folia Angiologica 20:18-21, Jan. 1972.
- Irwin, John W., et al: "Report of Committee to Study Health Care Delivery." Newsletter of the Suffolk District Medical Society, Vol. I, no. 3, April 1972.
- JAFFE, Burton F.: "Post Operative Hoarseness." Am. J. Surg. 123:432-437, April 1972.
- JAKO, Geza J.: "Biomedical Engineering in Ear Surgery." Otolaryngol. Clin. North Am. 5:173-182, Feb. 1972.
- JAKO, Geza J. and Strong, M. S.: "Laryngeal Photography." Arch. Otolaryngol. 96:268-271, Sept. 1972.
- Keamy, Donald G., et al: "Successfully Treated Rhino-Cerebral Phycomycosis in Well Controlled Diabetes." N. Engl. J. Med. 285:1180-1182, Nov. 18, 1971.
- Kiang, Nelson Y-s. (See GOLDSTEIN, J. L.; WALSH, B. T.)
- Lee, Keatjin J. (See Miller, D.)
- LOFGREN, Robert H.: "Surgery of the Pterygomaxillary Fossa." Arch. Otolaryngol. 94:516-524, Dec. 1971.
- MacMILLAN, Alexander S., Jr., et al: "Radiological Evaluation of Post-Tracheostomy Lesions." Thorax 26:696-703, Nov. 1971.
- Miller, Daniel, WILSON, W. R., et al: "Juvenile Nasopharyngeal Angiofibroma." Laryngoscope 82:985-997, June 1972.
- MILLER, Daniel: "Cryosurgery for the Treatment of Neoplasms of the Oral Cavity." Otolaryngol. Clin. North Am. 5:377-388, June 1972.
- MILLER, Daniel, Silverstein, H. and Gacek, R. R.: "Cryosurgical Treatment of Carcinoma of the Ear." Trans. Am. Acad. Ophthalmol. Otolaryngol. 76:1363-1367, Sept.-Oct. 1972.
- Miller, Daniel (See Goodman, M. L.) Miller, J. B. (See Walsh, B. T.)
- MONTGOMERY, William W.: "Postlaryngectomy Vocal Rehabilitation." Arch. Otolaryngol. 95:76-83, Jan. 1972.
- MONTGOMERY, William W.: "Ossifying Cementoma (Cementifying Fibroma.) Trans. Am. Acad. Ophthalmol. Otolaryngol. 76:1380-1383, Sept.-Oct. 1972.

- MONTGOMERY, William W.: "Block Dissection of the Neck." Chapter 27N of Vol. 4 of Otolaryngology. Edited by W. H. Maloney. New York. Harper-Row. 1972. 25 pp.
- MONTGOMERY, William W.: "Reconstructive Surgery for Laryngeal and Tracheal Stenosis." First International Symposium of Plastic and Reconstructive Surgery of the Face and Neck. Germany, Jan. 1972.
- MONTGOMERY, William W.: "Ear, Nose and Throat." Chapter 15 of: Surgery, 3rd ed. Edited by G. L. Nardi and G. D. Zuidema. Boston, Little, Brown. 1972. pp. 1025-1050.
- NEDZELNITSKY, V. and Weiss, T. F.: "Measurements of Sound Pressure in the Inner-Ear Fluids." M.I.T. RLE QPR 104: 308-309, Jan. 15, 1972.
- SAITO, Haruo and Baxter, A.: "Undiagnosed Intratemporal Facial Nerve Neurilemomas." Arch. Otolaryngol. 95:415-419, May 1972.
- SCHUKNECHT, Harold F.:" "Gavin Livingstone Memorial Lecture: Anatomical Variants and Anomalies of Surgical Significance." J. Laryngol. Otol. 85:1238-1241, Dec. 1971.
- SCHUKNECHT, Harold F.: "The Eleventh Sir William Wilde Discourse: Cupulolithiasis." Proc. Irish Otol. Soc., Report 12th Annual Meeting, 1971. pp. 1-15.
- Schuknecht, Harold F. (See WRIGHT, J. L.)
- Silverstein, H. (See MILLER, D.)
- TAKAHASHI, Tadahiko: "The Ultrastructure of the Pathologic Stria Vascularis and Spiral Prominence in Man." Ann. Otol. Rhinol. Laryngol. 80:721-735, Oct. 1971.
- WALSH, B. T., Miller, J. B., Gacek, R. R. and Kiang, N. Y-s: "Spontaneous Activity in the Eighth Cranial Nerve of the Cat." Int. J. Neurosci. 3:221-236, 1972.
- Weiss, T. F. (See NEDZELNITSKY, V.)
- WRIGHT, John L. and Schuknecht, H. F.: "Atrophy of the Spiral Ligament." Arch. Otolaryngol. 96:16-21, July 1972.
- YULES, Richard B.: Atlas for Surgical Repair of Cleft Lip, Cleft Palate and Noncleft Velopharyngeal Incompetence. Springfield, Thomas. 1971. 200 pp.
- Yules, Richard B. (See Miller, D.)

Publications

Department of Ophthalmology Surgical and Research Staffs

- *AIELLO, Lloyd M.: "Ruby Laser Photocoagulation in Diabetic Retinopathy."
 Isr. J. Med. Sci. pp. 293-295, Aug-Sept. 1972.
- AIELLO, Lloyd M.: "Ruby Laser Photocoagulation for Diabetic Retinopathy." Chapter in: Diabetes Mellitus: Diagnosis and Treatment, Vol. 3. Edited by S. S. Fajans and K. S. Sussman. New York. American Diabetes Assoc. 1971. pp. 333-336.
- Aiello, Lloyd M., et al: "Diffuse Angiopathy and Neovascularization in Diabetic Retinopathy." Mod. Probl. Ophthalmol. 9:113-116, 1971.
- ALLEN, Henry F.: "Aseptic Techniques in Ophthalmology." Chapter 7 in: Microbiology of the Eye. By D. Locatcher-Khorazo and B. C. Seegal. St. Louis, Mosby. 1972. pp. 86-118.
- ALLEN, Henry F.: "The Eye." Chapter 47 in: Surgery, 3rd ed. Edited by G. L. Nardi and G. D. Zuidema. Boston. Little, Brown. 1972. pp. 1061-1066.
- Allen, Henry F. (See BENJAMIN, S. N.)
- BENJAMIN, Steven N. and Allen, H. F.: "Classification for Limbal Dermoid Choristomas and Branchial Arch Anomalies. Presentation of an Unusual Case." Arch. Ophthalmol. 87: 305-314, March 1972.
- BERSON, Eliot L. and Howard, J.: "Temporal Aspects of the Electroretinogram in Sector Retinitis Pigmentosa." Arch. Ophthalmol. 86:653-665, Dec. 1971.
- BEYER, Charles K. and Smith, B.: "Naso-Orbital Fractures, Complications and Treatment." Ophthalmologica 163:418-427, 1971.
- Beyer, Charles K., SMITH, B. and Leone, C. R., Jr.: "The Use of Glass Beads as Primary and Secondary Orbital Implants." Acta XII Concil. Ophthal. Mexico (1970) 2:1474-1478, 1971.
- Beyer, Charles K., REINECKE, R. D., et al: "An Innovation in Eye Care." Sight-Sav. Rev. 42:35-41, Summer 1972.
- BORUCHOFF, S. Arthur and Kuwabara, T.: "Electron Microscopy of Posterior Polymorphous Degeneration." Am. J. Ophthalmol. 72:879-887, Nov. 1971.
- Carroll, John M. (See Beyer, C. K.; LEMP, M. A.)
- CHADER, Gerald J. and Reif-Lehrer, Liane: "Hormonal Effects on the Neural Retina: Corticoid Uptake, Specific Binding and Structural Requirements for the Induction of Glutamine Synthetase." Biochem. Biophys. Acta. 264:186-196, 1972.

- CHYLACK, Leo T., Jr. and Kinoshita, J. H.: "The Interaction of the Lens and the Vitreous. I. The High Glucose Cataract in a Lens-Vitreous Preparation." Exp. Eye Res. 14:58-64, July 1972.
- COGAN, David G. and Kuwabara, T.: "Tumors of the Ciliary Body." Int. Ophthalmol. Clin. 11:27-56, Fall 1971.
- COGAN, David G. and Kuwabara, T.: "Growth and Regenerative Potential of Descemet's Membrane." Trans. Ophthalmol. Soc. U. K. 91:875-894, 1971
- COGAN, David G. and Donaldson, D. D.: Ocular Fundus in Systemic Diseases. New York. MEDCOM, Inc. 1971. 100 slides, 38 pp.
- COGAN, David G.: "Heredity of Congenital Ocular Motor Apraxia."
 Trans. Am. Acad. Ophthalmol. Otolaryngol. 76:60-63, Jan.-Feb. 1972.
- COGAN, David G.: "Radiant Energy." Section IV of Vol. 2 of *Modern* Ophthalmology, 2nd ed. Edited by Arnold Sorsby. London. Butterworths. 1972. pp. 685-691.
- Constable, Ian J. and SWANN, D. A.: "Vitreous Structure. I. Distribution of Hyaluronate and Protein. II. Role of Hyaluronate." Invest. Ophthalmol. 11:159-168, March 1972.
- Constable, Ian J., SWANN, D. A. and Harper, E.: "Vitreous Structure. III. Composition of Bovine Vitreous Collagen." Invest. Ophthalmol. 11:735-738, Sept. 1972.
- Dohlman, Claes H., et al: "Glucose Concentration and Hydration of the Corneal Stroma." Ophthal. Res. 2:253-260, 1971.
- DOHLMAN, Claes H.: "Symposium on the Dry Eye. New Concepts in Ocular Xerosis." Trans. Ophthalmol. Soc. U. K. 91:105-108, 1971.
- DOHLMAN, Claes H., et al: "Adhesives in the Treatment of Corneal Diseases." Acta XXI Concil. Ophthal. Mexico (1970) 2:1292-1297, 1971.
- DOHLMAN, Claes H. and Pfister, R. R.:
 "Management of Chemical Burns of the
 Eye." Chapter in: Symposium on the
 Cornea, Transactions of New Orleans
 Academy of Ophthalmology. St. Louis.
 Mosby. 1972. pp. 105-120.
- DOHLMAN, Claes H. and Doughman, D. J.: "The Stevens-Johnson Syndrome." Chapter in: Symposium on the Cornea. Transactions New Orleans Academy of Ophthalmology. St. Louis. Mosby. 1972. pp. 236-252.
- Dohlman, Claes H. (See LEMP, M. A.; PAVAN-LANGSTON, D.; PFISTER, R. R.; REED, J. W.; SLANSKY, H. H.; THOFT, R. A.)

- Donaldson, David D. (See COGAN, D. G.)
 Doughman, Donald J. (See DOHLMAN,
 C. H.)
- ELLINGSEN, Bruce A. and Grant, W. M.: "Trabeculotomy and Sinusotomy in Enucleated Human Eyes." Invest. Ophthalmol. 11: 21-28, Jan. 1972.
- ENGLISH, Frank P.: "Demodex Folliculorum and Oedema of the Eyelash." Brit. J. Ophthalmol. 55:742-746, Nov. 1971.
- Frederick, Albert R., Jr. (See KREIGER, A. E.)
- FREEMAN, H. MacKenzie: "Congenital Retinal Diseases." Chapter in: Retinal. Diseases in Children. Edited by William Tasman. New York. Hoeber. 1971. pp. 1-18.
- Freeman, H. MacKenzie, COUVILLION, G. G. and Schepens, C. L. "Vitreous Surgery: Advances in Instrumentation." Acta XXI Concil. Ophthal. Mexico (1970) 2:1487-1492, 1971.
- Freeman, H. MacKenzie (See HUMPHREY, W. T.; SCHEPENS, C. L.; TOLENTINO, F. I.)
- FRICKER, Stephen J.: "Use of Synchronous Detector for ERG and VER Measurements in Children." Proc. VIII ISCERG Symposium, Sept. 7-12, 1970. A. Wirth, Editor. Pisa, Italy. 1972. pp. 18-34.
- GRANT, W. Morton: "Laboratory Research Symposium: Microsurgery of the Outflow Channels." Trans. Am. Acad. Ophthalmol. Otolaryngol. 76:398-404, March-April 1972.
- Grant, W. Morton (See ELLINGSEN, B. A.)
- Gusak, Steven V., Jr. (See NICHOLSON, D. H.)
- Hodgkinson, John (See KREIGER, A. E.)
- HUMPHREY, William T., Freeman, H. M. and Schepens, C. L.: "Vitreous Surgery. VI. Removal of Paramacular Intravitreous Body with Magnet and Vitreous Forceps." Arch. Ophthalmol. 86:670-673, Dec. 1971.
- IMAIZUMI, Masatoshi and Kuwabara, T.: "Development of the Rat Iris." Invest. Ophthalmol. 10:733-744, Oct. 1971.
- Iwata, Shuzo (See LEMP, M. A.)
- Kinder, Robert S. L. and APPLEBY, R. S., Jr.: "Bilateral Angle-Closure Glaucoma in a 14-Year-Old-Boy." Arch. Ophthalmol. 86:449-450, Oct. 1971.
- KINDER, Robert S. L.: "The Ocular Pathology of Tuberous Sclerosis." J. Pediatr. Ophthalmol. 9:106-107, May 1972.
- Kini, Mohandas M. and COOPER, J. R.: "The Partial Purification and Characterization of Thiamine Pyrophosphatase from Rabbit Brain." J. Neurochem. 19:1809-1811, July 1972.

- Kinoshita, Jin H. (See CHYLACK, L. T., Jr.)
- KREIGER, Allan E., et al: "The Results of Retinal Detachment Surgery.
 Analysis of 268 Operations with a Broad Scleral Buckle." Arch. Ophthalmol. 86:385-394, Oct. 1971.
- Kuwabara, Toichiro (See BORUCHOFF, S. A.; COGAN, D. G.; IMAIZUMI, M.; LEMP, M. A.)
- LEMP, Michael A., et al: "Dry Eye Secondary to Mucus Deficiency." Trans. Am. Acad. Ophthalmol. Otolaryngol. 75:1223-1227, Nov.-Dec. 1971.
- LEMP, Michael A., et al: "The Precorneal Tear Film." Acta XXI Concil. Ophthal. Mexico (1970) 2:1602-1605, 1971.
- McMEEL, J. Wallace: "Diabetic Retinopathy: Fibrotic Proliferation and Retinal Detachment." Trans. Am. Ophthalmol. Soc. 69: 440-493, 1971.
- Miller, David, REFOJO, M. F. and Fiore, A. S.: "A New Fluorescent Stain for Soft Hydrophilic Lens Fitting." Arch. Ophthalmol. 87:275-277, March 1972.
- MILLER, David, et al: "Laboratory Evaluation of a Clinical Glare Tester." Arch. Ophthalmol. 87:324-332, March 1972.
- MILLER, David: "The Nude in the Shower Phenomenon." Survey Ophthalmol. 16:332, March-April 1972.
- MILLER, David, et al: "A Light-Shielded Spectacle for Albino Patients." Ann. Ophthalmol. 4:611-612, Aug. 1972.
- Miller, David (See WOLCHOK, E. B.)
- NICHOLSON, Don H. and Guzak, S. V., Jr.: "Visual Loss Complicating Repair of Orbital Floor Fractures." Arch. Ophthalmol. 86:369-375, Oct. 1971.
- PAVAN-LANGSTON, Deborah and Geary, P. A.: "Steroid Inhibition of Leukocyte Defense System in Mycoplasmal Uveitis." Arch. Ophthalmol. 86:575-582, Nov. 1971.
- PAVAN-LANGSTON, Deborah and Dohlman, C. H.: "A Double Blind Clinical Study of Adenine Arabinoside Therapy of Viral Keratoconjunctivitis." Am. J. Ophthalmol. 74:81-88, July 1972.
- PETERSEN, Robert A. and Rosenthal, A.: "Retinopathy and Papilledema in Cyanotic Congenital Heart Disease." Pediatrics 49:243-249, 1972.
- PFISTER, Roswell R., Richards, J. S. F. and Dohlman, C. H.: "Recurrence of Herpetic Keratitis in Corneal Grafts." Am. J. Ophthalmol. 73:192-196, Feb. 1972.
- Pfister, Roswell R. (See DOHLMAN, C. H.)

- Pruett, Ronald C., CALABRIA, G. A., et al: "Hydrogels and Cyanoacrylate Adhesive in Scleral Buckling Procedures." Acta XXI Concil. Ophthalmol. Mexico (1970) 1:857-860, 1971.
- RAVIOLA, Giuseppina: "The Fine Structure of the Ciliary Zonule and Ciliary Epithelium with Special Regard to the Organization and Insertion of the Zonular Fibrils." Invest. Ophthalmol. 10:851-869, Nov. 1971.
- REED, John W. and Dohlman, C. H.: "Corneal Cysts. A Report of Eight Cases." Arch Ophthalmol. 86:648-652, Dec. 1971.
- REIF-LEHRER, Liane: "Actinomycin-D Enhancement of Glutamine Synthetase Activity in Chick Embryo Retina Culture in The Presence of Cortisol." J. Cell Biol. 51:303-311, Oct. 1971.
- Reif-Lehrer, Liane and LAVAIL, M. M.: "Glutamine Synthetase in the Normal and Dystrophic Mouse Retina." J. Cell Biol. 51:348-354, Oct. 1971.
- Reif-Lehrer, Liane (See CHADER, G. J.)
- ROBB, Richard M.: "Periodic Alternation of Null Point in Congenital Nystagmus. Association with Alternating Gaze Deviation and Esotropia." Arch. Ophthalmol. 87:169-172, Feb. 1972.
- ROBB, Richard M.: "Cataracts Acquired Following Varicella Infection." Arch. Ophthalmol. 87:352-354, March 1972.
- Schepens, Charles L., de GUILLEBON, H., et al: "Monochromatic Light in Fundus Photography." Acta XXI. Concil. Ophthal. Mexico (1970) 2: 1734-1739, 1971.
- SCHEPENS, Charles L. and Lee, P.-F.: "Glaucoma Microsurgery. Aqueous-Venous Shunt Procedure." Int. Surg. 57:37-41, Jan. 1972.
- Schepens, Charles L., MAKAI, N. and Lee, P.-F.: "Intravitreous Injections of Silicone: An Experimental Study. II. Histochemistry and Electron Microscopy." Ann. Ophthalmol. 4: 273-287, April 1972.
- Schepens, Charles L. and MARGHERIO, R. R.: "Macular Breaks. I. Diagnosis, Etiology, and Observations. II. Management." Am. J. Ophthalmol. 74: 219-240, Aug. 1972.
- Schepens, Charles L. and HOLMES, L. B.: "Syndrome of Ocular and Facial Anomalies, Telecanthus and Deafness." J. Pediatr. 81:552-555, Sept. 1972.
- Schepens, Charles L., et al: "Wide-Angle Optical Model of the Eye." Optica Acta 19:387-388, 1972.
- SCHEPENS, Charles L. and Freeman, H. M.: "Retinal Detachment." Chapter 13, Section VII, Part 4 of Vols. 3

- and 4 of: Modern Ophthalmology, 2nd ed. Edited by Arnold Sorsby. London. Butterworths. 1972. pp. 1121-1148.
- Schepens, Charles L. (See FREEMAN, H. M.; HUMPHREY, W T.; Pruett, R. C.; TOLENTINO, F. I.)
- SIMMONS, Richard J.: "Malignant Glaucoma." Brit. J. Ophthalmol. 56:263-272, March 1972.
- SLANSKY, Harvey H., et al: "Pathophysiology and Prevention of Corneal Stromal Ulcerations." Acta XXI Concil. Ophthal. Mexico (1970) 1:662-665, 1971.
- SLANSKY, Harvey H., Dohlman, C. H. and Berman, M. B.: "Prevention of Corneal Ulcers." Trans. Am. Acad. Ophthalmol. Otolaryngol. 75:1208-1211, Nov.-Dec. 1971.
- Smith, Taylor R. (See KREIGER, A. E.)
- THOFT, Richard A., Friend, J. and Dohlman, C. H.: "Corneal Glucose Flux. II. Its Response to Anterior Chamber Blockage and Endothelial Damage." Arch. Ophthalmol. 86:685-691, Dec. 1971.
- THOFT, Richard A. and Friend, J.: "Corneal Epithelial Glucose Utilization." Arch. Ophthalmol. 88:58-62, July 1972.
- THOFT, Richard A. and Friend, J.: "Corneal Amino Acid Supply and Distribution." Invest. Ophthalmol. 11:723-727, Sept. 1972.
- TOLENTINO, Felipe I., et al: "Adjustable Mirror Contact Lens for Fundus and Vitreous Examinations." Ann. Ophthalmol. 4:95-98, Feb. 1972.
- Walton, Davis S., MIRHOSSEINI, S. A. and Holmes, L. B.: "Syndrome of Pigmentary Retinal Degeneration, Cataract, Microcephaly, and Severe Mental Retardation." J. Med. Genet. 9:193-196, June 1972.
- WAND, Oscar: "Ptosis Associated with Aseptic Meningitis." Arch. Ophthalmol. 88:334-335, Sept. 1972.
- WOLCHOK, Eugene B. and Miller, D.: "A New Type of Eye Patch for Corneal Abrasions." Trans. Am. Acad. Ophthalmol. Otolaryngol. 76: 542-543, March-April 1972.
- WOLF, Ernst and Nadroski, A. S.: "Extent of the Visual Field; Changes with Age and Oxygen Tension." Arch. Ophthalmol. 86:637-642, Dec. 1971.
- Wolf, Ernst, DEITER, P. and Geer, S.:
 "Glare and the Scatter of Light in the
 Vitreous. Effect in Postoperative
 Retinal Detachment Patients." Arch.
 Ophthalmol. 87:12-15, Jan. 1972.
- Wolf, Ernst (See MILLER, D.)
- WRAY, Shirley H.: "The Treatment of Optic Neuritis." Sight-Sav. Rev. 42:5-13, Spring 1972.

Employe Service Award Recipients

Twenty Years of Service

Roger N. Lane Helen Lang Gerald Maloney

Ten Years of Service

Barbara E. Czechowski, R.N.
Hilda Greene
Elease Harper
Gladys Johnson, L.P.N.
Johanna Ledig
Sylvia I. Scalley, R.N.
Clara Sellon, R.N.

Five Years of Service

Joseph Abbt Beverly Barkus Alma Burey Mary Lou Butler, R.N. McKinley Crawford Estelle Daniels Daria D'Ippolito Earl Jackson Elaine T. Joseph Ann R. Levine Rhoda Morrison Gail F. O'Connor Carol Ota Gertrude Roberts Lorraine Sargent, R.N. Donna Schaffer Doreen Smith, L.P.N. Ruby Thomas Everett M. Tucker Ernst Wolf, M.D.

Volunteer Service Award Recipients

Honor Roll

Mrs. Mark W. Adair
Miss M. E. Blackden
Miss Leah Cook
Mrs. Leo Daley
Mrs. Ernest DiLorenzo
Mrs. C. M. Harsh
Miss Natalie Hebert
Mrs. Charles Innes
Mrs. Varaztad Kazanjian
Mrs. Edgar Kent
Mrs. Edith L. Lewis
Mrs. John Lowell
Mrs. Vincent Scanlon
Miss Ruth Shapiro

Over One Hundred Hours of Service

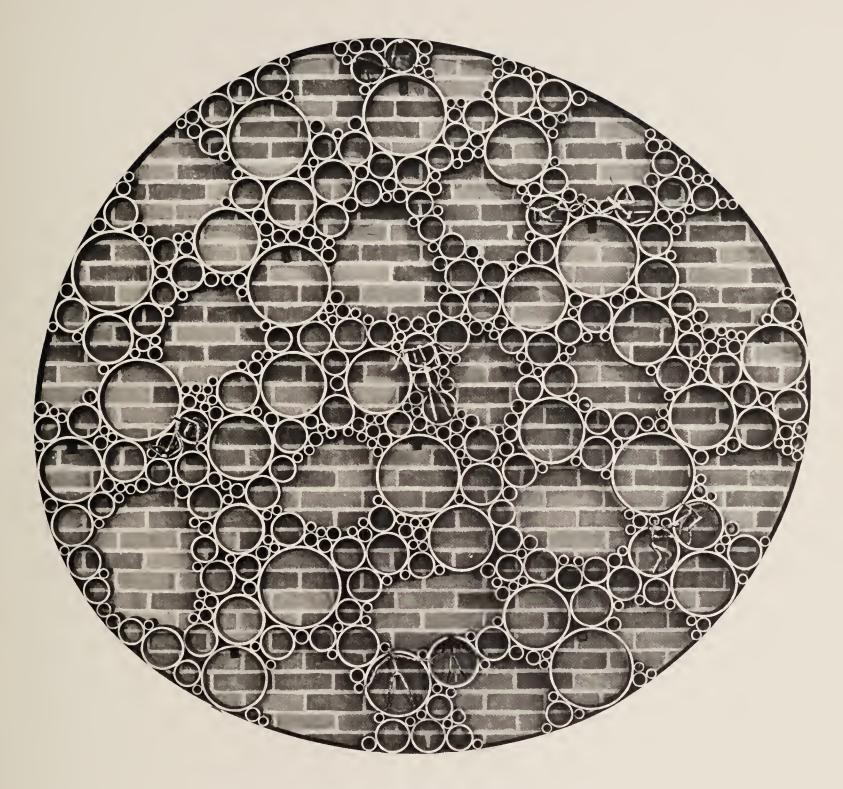
Mrs. Edwin J. Carr
Mr. J. Martin Davis
Miss Noreen Goralnick
Miss Grace Kalalian
Miss Molly Lowell
Miss Nancy Okamura
Mrs. Milton Rosenthal
Miss Sheila Scanlon
Mr. Garth H. Sibbald
Mrs. Mildred F. Sullivan
Mrs. Kathryn Van Dernet
Miss Lydia Weare

FORM OF BEQUEST

I give to the Massachusetts Eye and Ear Infirmary, a charitable organization organized under the laws of Massachusetts, and situated at Boston, Massachusetts,

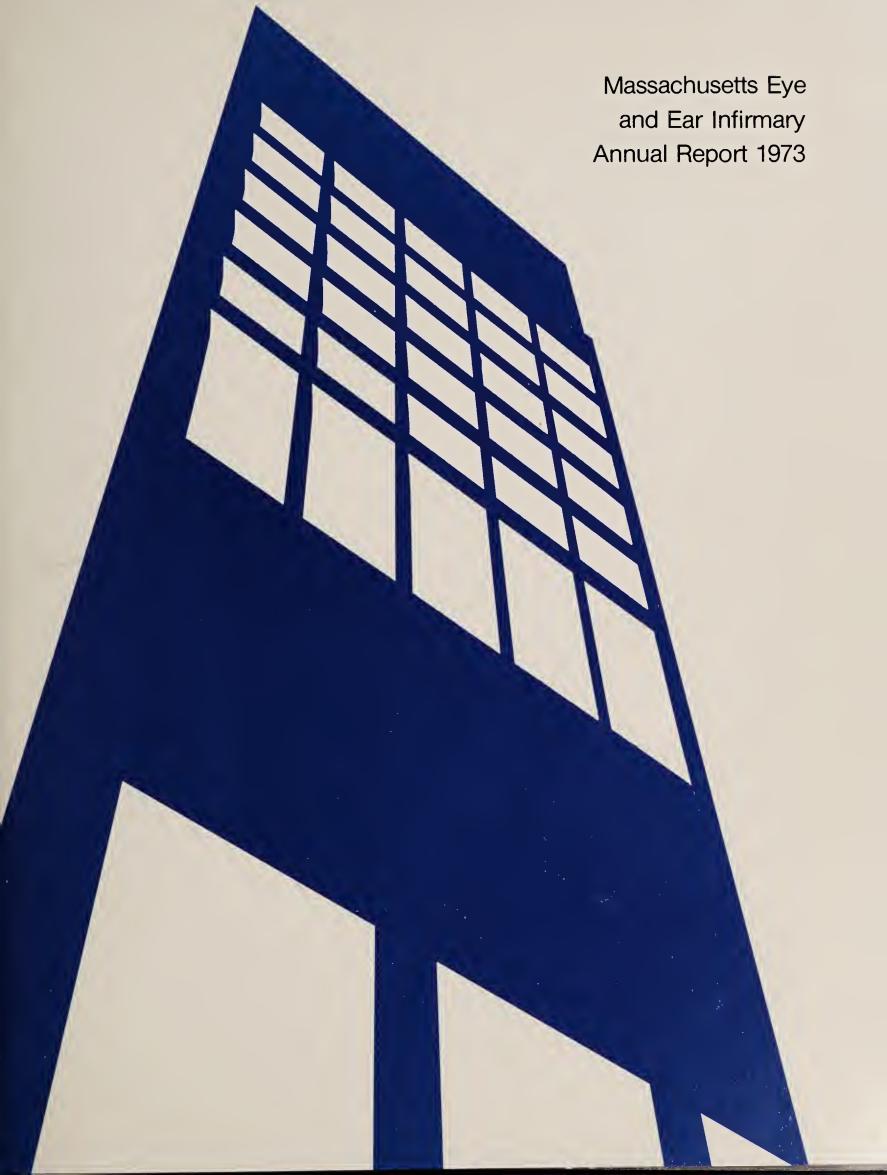
...... Dollars.

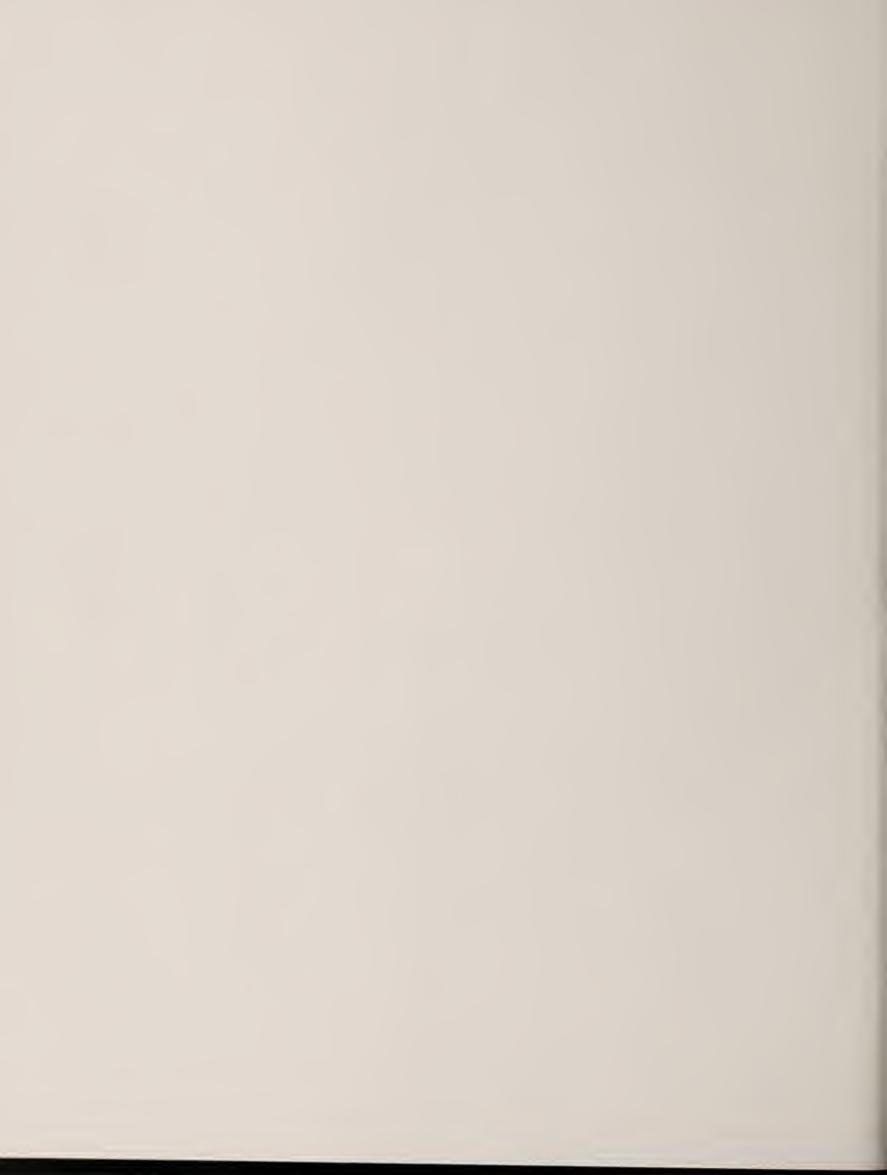
Massachusetts Eye and Ear Infirmary 243 Charles Street Boston, Massachusetts 02114



Sculpture: No Man Is An Island by Clark Fitzgerald, Castine, Maine First Congregational Church in Melrose









Massachusetts Eye and Ear Infirmary 147th Annual Report 1973

Report of the Director



Without question, 1973 will go down in the annals of the history of the Massachusetts Eye and Ear Infirmary as the year of the move: The move into a new time for the Infirmary and its patients, as well as an eminent new place.

After all the years of planning and building, the dream became actuality. The towering first portion of the building opened. Patients, who for so long had occupied multiple rooms lacking so many of the amenities associated with modern hospital care, had beautiful new accommodations.

Literally, a whole new inpatient facility now replaced the old. Architecturally fascinating, the new building partially begins on the ground level, but fundamentally starts on the sixth floor and rises nine stories above.

Each patient room now commands a stunning view of the Charles River, inner harbor, and lower Beacon Hill. Each adapts to single or double occupancy maximizing usage. Each has climate control for personal comfort and medical benefits; rheostat control lighting; and the convenience of a combined bath/dressing room.

Moreover, the installation of unique "medicine cabinets" above each patient bed already has reaped the predicted

dividends in nursing care. So has the bedside console that permits patient-to-nursing station communication at the touch of a fingertip. Our nursing staff has reported distinct advantages in having all patient medication at each bedside but closeted out of sight, protected from dust or spills.

The other inestimable boon to patient care was the complete replacement of the entire range of surgical services: ten spanking new, ultra-modern operating rooms now replace the old. But, again, that's merely the beginning of the changeover.

The surgical suites now provide a vitally important preoperative patient receiving area for final patient examination and the start of medication.

The critically important post-operative Recovery Room facility, adjoining the surgical theatre, is greatly expanded, fitted with fully automatic systems for monitoring vital signs, and also is set-up with a curtaining arrangement to afford each patient maximum privacy.

The emergency services, so long congested and crowded in impossibly small quarters, now have a pleasant receiving area, individual examining rooms, four minor surgery rooms, and even an adjoining recovery room area. Moreover, the emergency serivces now are immediately accessible on the ground level.

Of course, there were many other major developments in the Infirmary's overall operation: We made a series of new and prestigious medical appointments, started construction of a new research laboratory, revitalized internal programs, extended our community outreach, and committed ourselves to an immediate go-ahead into final construction.

Yet, the single most transcending event stands clearly as the completion and occupancy of the first and major portion of the new building: The \$23 million Phase I, that represents two-thirds of the total project and essentially replaces inpatient facilities and their supportive services.

For the record, the actual move-in took place over the second weekend in March. Those two days will live forever in the memory of those who were there.

We moved all the inpatients, their belongings, nursing care plans and medicines. Not a single item was lost, mislaid, or confused with anyone else's. This feat required incredible coordination and the cooperation of the entire staff.

For the smooth transition, however, we owe our nursing staff the highest of accolades. Months of planning on their part went into preparing every aspect of the patients' move. And, our nurses assumed these added responsibilities, of course, while still carrying out their daily programs of nursing care and teaching. Further, during the same period they devised a whole new computer-analyzed approach to patient management based on predicted nursing needs.

Our patients and staff were able to breakfast in the old building and lunch in the new. The entire dietary service moved to its new location betweentimes with the willing help of the entire dietary staff. Here, too, the transformation from old to new begs description. The former dining facilities, housed in the basement, were antiquated and far from appetizing. The new dining room is truly striking in decor. It offers one of the finest views in the city, with windows lining one entire wall. Stark white walls have now become the backdrop for an exciting new program, a rotating art exhibit. Since last January, month by month artists from throughout New England (and one from Sweden) have taken advantage of the opportunity to exhibit their works. As a result our diners enjoy a refreshing change and a level of decoration we otherwise could in no way afford.

At the very heart of the Infirmary's specialty, however, is its surgery. Nearly every inpatient undergoes surgery. Therefore, the transition from our former operating rooms to the new surgical suites had to take place with an absolute minimum of disruption. And so it did. We closed down elective surgery late on Friday night, while still maintaining an operating room capability sufficient to handle emergencies. And we re-opened the entire new sixth floor surgical facility in the new building and all its essential support areas, the following Monday morning with a full surgery schedule. In the meantime, every piece of operating room equipment to be transferred had been taken apart, scrubbed, reassembled and reinstalled. Our maintenance and housekeeping personnel considered it a matter of personal pride that everything would be in readiness; that no patient would have surgery

Everyone helped. Those on and those off duty. Nor were any of the finishing touches overlooked. Members of the Ladies Visiting Committee graced each new room with a flowering plant and adorned each tray with a fresh carnation to welcome the first patients.

The public importance of the move received its due, too.

Once a week for ten consecutive weeks from January 23 through March 27, the Infirmary conducted the celebrated Lowell Institute Lectures in Medicine. Entitled "The Future: Man Augments His Senses", the series focused on the importance of man's communicative senses, his sight, hearing and speech. Further, the lectures served

as a showcase for displaying the medical excellence for which the Infirmary is deservedly famed. Extensive news media coverage, locally and nationally, resulted in appropriate widespread attention for the Infirmary for the weeks surrounding its historic move.

A reception to commemorate the opening of Phase I also served as the setting for announcing the Board of Manager's resolute decision to proceed without delay with Phase II to complete the new edifice. While the final portion will cost an additional \$11 million, it was wisely recognized that because of inflation, postponement would only have added heavily to the final costs. Highlighting the evening was the announcement that the Infirmary had been awarded a leadership gift of one million dollars for Phase II by the Frederick J. Kennedy Memorial Foundation.

Understandably, the subsequent months of 1973 were largely spent settling-in. Structurally, we now are vertical — 15 stories high and radically different from the previous physical plant. Intricate new traffic and communication patterns had to be devised. By year's end, however, adjustments in elevator usage (six more will be installed in Phase II) and new employee indoctrination programs were overcoming any episodes of congestion or lack of familiarity with the new quarters.

Despite such extra activities and wonderful though they were, the Infirmary still had to maintain and continue to strive to improve all established services. Among these we would point out:

- •Admission to the hospital has been made easier. Patients now come immediately to an inviting, admission-reception area on the ninth floor. Social Services are handily located in adjoining offices, a great convenience for patients with special problems.
- •Clinical laboratories and radiology services now occupy extensively expanded new quarters. Moreover, these centers have been outfitted with the most technologically advanced equipment to assure faster, more extensive workups.
- •Use of computer analysis has been projected into new realms of patient management. Prior to admission, each patient's nursing needs now are pre-determined. By advance forecast, surgery is similarly scheduled to make optimum use of operating room time. And a highly considerate system for utilization review has been instituted, one that already has proved so sound it is being explored by other hospitals as the method of choice.
- •Anesthesiology services have added a vitally important new "poor risk" patient consultation program so that prior to surgery specialty advice is provided all patients with medical complications.

- •A new area of research will explore a category of inherited eye disorders that now lead to virtual blindness and are treatable only in very rare cases. The research will be conducted in a new multi-disciplinary Laboratory for the Study of Retinal Degenerations which is now under construction and will be directed by Dr. Eliot L. Berson. This project was funded under a grant from the newly formed National Retinitis Pigmentosa Foundation of Baltimore, Md.
- •A specialized plastic surgery service has been created to meet the needs of patients who require highly intricate ear, nose and throat reconstructive surgery.
- •In January 1973 the Infirmary opened a full-time Ultra-sound Clinic, where high frequency sound is used to diagnose certain eye abnormalities that are otherwise undetectable. Similar to sonar, this modern technique beams high frequency sound waves through tissue to show defects within the eye that cannot be seen any other way. In the first year it has been available, the demand for ultrasonography has been so great that more than fifty patients a month now undergo the specialized studies. Many are from New England, but others are referred here from distant parts of the United States and even from foreign countries.
- •Arrangements for opening a day-care center for the children of staff members and the community were completed. Day-care had been identified as the most pressing need of the local community by the Cambridge Street Community Development Corporation. The center will occupy quarters in the Nurses' Residence formerly used for teaching Harvard Medical School students. Those activities now can move back into the main building.
- •Plans also were worked out under which the Infirmary will establish an eye clinic at the Hebrew Rehabilitation Center for the Aged in Roslindale. Here, Infirmary physicians in residency training will be able to bring eye care directly to the elderly residents of the center.

Through the course of the year, the Infirmary also made several key appointments to the medical staff. Dr. Alfred L. Weber was named Director of the Radiology Department, and Dr. Porter H. Smith was named Chief of Anesthesiology.

Happily, by year's end the Infirmary also chose Dr. Claes H. Dohlman to serve as Chief of the Infirmary's Department of Ophthalmology. In keeping with the academic tradition associated with that post, Dr. Dohlman also is promoted to Professor of Ophthalmology and Head of the Department at Harvard Medical School. These appointments are also accompanied by his being named Director of the Howe Laboratory of Ophthalmology. This once again places the three expressions of the specialty — clinical care, teaching and research — under single leadership, as in previous years.

Dr. Charles D. J. Regan, who so ably served as acting Chief during the interim period when a successor was chosen, has now been named Associate Chief of the Department of Ophthalmology.

•Administratively, too, the Infirmary re-aligned the chain of supervision to strengthen the lines of managerial control. Joining Raymond F. Lyons as associate directors are James Hamill who now basically oversees clinical inpatient and outpatient services and Anthony Reis who directs all administrative services.

Regrettably the year was not without its grim aspects. The federal government imposed succeeding phases of economic controls upon us. Under each form, the wage-price controls on hospitals were more stringent than on any other sector of the economy.

Confronted on every side with rising costs due to an inflation of monstrous proportions, we were expected once again to somehow do more, better and for a lower price. And we were to do it while the government itself neglected to meet its own obligations for Medicaid patients. That debt at year-end reached the staggering sum of \$360,000 for Infirmary patients alone.

Looking back, I am still astounded at what we were able to accomplish. We did it, I am certain, only because of the sound and solid support we receive from our distinguished Board of Managers, and by virtue of the loyalty of each member of the Infirmary staff. Our new building, thankfully, has served to deepen the fine spirit we always have known here. It is a profoundly inspiring experience to be a member of the Infirmary family.

Retrospectively, the moment in which we first occupied the new building seemed the culmination of a long, hard-won goal. Instead, of course, it marked a new beginning.

We are two-thirds of the way toward finishing our building. That project is now well within reach. Supporters of the Infirmary truly have rallied to this cause, are giving us the encouragement and funds needed to see this enormous undertaking through. We are indebted to each of them and are fully appreciative of their help.

As we begin yet another year in the Infirmary's purposeful existence, we look forward to the challenge it surely will hold. Vast new government programs have been proposed, including a system of national health insurance. Our tasks will not be easy if we are to preserve, as we must, quality medical care for our patients, and patients everywhere.

But, we of the Infirmary face such issues with great confidence. We are an enduring institution. In fact, 1974 will mark the start of the hospital's 150th anniversary. And we have more to celebrate every year.

Charles Wood





George M. Lovejoy, Jr., Vice President



George A. McLaughlin



Ephron Catlin, Treasurer



August R. Meyer



Henry K. Porter



Gustave M. Solomons



Mrs. John Lowell, Secretary



William A. Parker



James I. Summers



Avram J. Goldberg

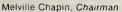


Ephraim Friedman, M.D.



Mrs. Richard Cary Curtis







William H. Claflin, III, President

Report of the Trustees and Board of Managers

Looking back on 1973, we cannot help but be impressed with the fullness of the year. We completed so much and we began so much

We really feel that our hospital has genuine reason to be proud: Proud of the progress we have made in completing the larger, primary portion of the new building; proud of the fine support we have received from the Infirmary's many benefactors and distinguished staff.

An old adage advises: Enjoy your achievements as well as your plans. That seems a highly appropriate thought to capsule the year 1973.

We, the Trustees and Managers, feel privileged to have been entursted with our governing role during this exciting time in the Infirmary's development. It has been deeply rewarding to be a part of the rebuilding of this eminent specialty hospital, a project that was greatly needed for so long.

Now that we have the use of Phase I of our new building, it is all the more apparent that we must press on and provide comparable quarters for all our patients and for the staff to carry out its clinical, research and educational endeavors. Modern facilities today are an absolute prerequisite for modern medicine.

We look forward with equal enthusiasm to the remaining task, the completion of the entire undertaking. We are confident that we will see it through, see the Fruit Street wing replaced, see the whole building finished as planned.

In so far as funding of the final capital addition program is concerned, we would like to report that the response to our solicitations is highly reassuring. We are within sight of our goal of raising \$4 million from private, public and foundation sources. The challenge now is to put the final effort into this last segment of the fund drive.

Meanwhile, the societal, governmental and economic circumstances, within which we must function, grow steadily more complicated. These are the areas where we feel we can best lend a hand. We live in an era of increasing government regulation and control of health care and medical facilities — greater regulation and less financial support. This will require additional time and effort from Trustees and Managers, but as stewards of the Infirmary, we must be increasingly involved in the outer community where we hope our knowledge and experience can be exerted in the Infirmary's behalf.

We congratulate Dr. Claes Dohlman upon his appointment as Chief of Ophthalmology. We give our sincere thanks to Dr. Charles Regan for so ably serving as Acting Chief during the interim. We also welcome to the hospital Dr. Porter H. Smith, our newly appointed Chief of Anesthesiology.

As we look ahead we know, of course, that the times will confront us with new issues, new concerns and new opportunities to serve. We stand ready to assist the Infirmary in every way we can, and do so with true appreciation of the vital work of our great hospital.

William H. Claflin III, President Melville Chapin, Chairman

TRUSTEES

(Dates indicate year of appointment)

1925	Hon.	Leverett	Saltonstall
------	------	----------	-------------

1934 Robert F. Bradford

1935 William A. Parker

1940 Mrs. Richard Cary Curtis

1940 Horace W. Frost

1943 Frederick Winthrop — honorary

1945 Mrs. Sullivan A. Sargent

1947 William H. Claflin, III

1948 The Rev. Robert G. Metters 1

1948 August R. Meyer

1948 Miss Amelia Peabody

1951 Francis W. Hatch, Jr.

1951 George L. Pew

1951 Howland S. Warren

1951 Melville Chapin

1951 Henry K. Porter

1952 George A. McLaughlin

1953 Mrs. Varaztad H. Kazanjian

1955 Richard P. Chapman

1955 William Ehrlich

1955 Weston Howland, Jr.

1957 William L. Saltonstall

1963 Thomas B. Frost

1963 John S. Howe

1963 Frederick H. Lovejoy

1963 Thomas Allsop

1965 George M. Lovejoy, Jr.

1965 Mrs. John Lowell

1965 Frederick C. Rozelle, Jr.

1966 Francis S. Hill

1966 Robert Bacon

1966 James I. Summers

1966 Leo F. Daley

1967 Paul A. Chandler, M.D.

1967 Edwin B. Dunphy, M.D.

1967 Mrs. Bartlett Harwood

1967 Henry G. Lapham

1967 John M. Lord

1967 LeRoy A. Schall, M.D.

1967 William F. Spang

1967 Monte J. Wallace

1968 Colin McA. Cunningham

1968 W. Clement Stone — honorary

1969 Richard W. Young, Ph.D.

1970 Ephron Catlin

1970 Mrs. Frederick S. Moseley

1970 Mrs. Frederick R. H. Witherby

1971 Mrs. Thaddeus R. Beal

1971 Avram J. Goldberg

1971 Frank L. Harrington, Jr.

1971 Robert C. Jordan

1971 Mrs. Robert C. Meisel

1971 Robert D. Williams

1972 Matthew J. Burns

1972 Leo H. Daley

1972 Mrs. William B. Ellison

1972 John U. Harris

1972 Richard Harte

1973 Dominic DiMaggio

1973 J. Frank Gerrity

1973 Robert T. P. Storer, Jr.

1973 Frederick G. P. Thorne

Board of Managers

Melville Chapin, Chairman William H. Claflin, III, President George M. Lovejoy, Jr., Vice President Ephron Catlin, Treasurer Mrs. John Lowell, Secretary

Mrs. Richard Cary Curtis Ephraim Friedman, M.D.* Avram Goldberg George A. McLaughlin August R. Meyer William A. Parker Henry K. Porter Gustave M. Solomons* James I. Summers

(All appointments designated through December 31, 1973)

*Appointed by the Commonwealth

Administration

Director

Charles T. Wood

Associate Director for Clinical Services
James R. Hamill

Associate Director for Hospital Services
Raymond W. Lyons

Associate Director for Administrative Services Anthony P. Reis

Staff

Administrative Assistant Margarete L. Arndt

Director of Development Hope S. Green

Director of Personnel Leo L. Simms

Director of Public Relations
Loretta McLaughlin

Administrative Departments

Director's Office

Charles T. Wood, Director Margarete L. Arndt, Administrative Assistant

Associate Director for Clinical Services
James R. Hamill

Associate Director for Hospital Services Raymond W. Lyons

Associate Director for Administrative Services Anthony P. Reis

Admitting

Ruth Dorfman, R.N., Chief Admitting Officer

Audiology
Rhoda Kimmel Morrison, Chief
Audiologist

Building Services

John Douglas, Director

Medical Records

Barbara Houtman, Director

Development
Hope S. Green, Director

Dietary Services
Herbert Kirshnit, Director

Maintenance Services
Robert Marshall, Director

Nursing Services
Barbara E. Czechowski, R.N., Director
Ruth J. Straitiff, Administrative
Assistant
Irene Cullin, R.N., Coordinator of
Nursing Education
Julia Bowen, R.N., Clinical Nursing
Supervisor
Dorothy Crosby, R.N., Clinical
Nursing Supervisor

Lynn Green, R.N., Clinical Nursing Supervisor
Pearline Gregory, R.N., Clinical Nursing Supervisor
Judith I. Harvey, R.N., Clinical Nursing Supervisor
Hope E. Onessimo, R.N., Clinical Nursing Supervisor
Lorraine Sargent, R.N., Clinical Nursing Supervisor

Operating Rooms
Katherine Taft, R.N., Director

Outpatient Services
Edward J. Stockman, Jr.,
Administrator
Carol Stearns, Chief OPD Admitting
Officer
Personnel

Leo L. Simms, Director

Public Relations
Loretta McLaughlin, Director
Denise Sullivan, Public Relations
Assistant

Purchasing and Stores Lehan Power, Director

Scheduling
Rose Rich, Chief Scheduling Officer

Social Service
Madeline Shipsey, Director

Volunteer Service Rosanne Ring, Director



LADIES VISITING COMMITTEE

Executive Committee

Mrs. Robert C. Meisel

Chairman

Mrs. John Lowell

First Vice Chairman

Mrs. James I. Summers

Second Vice Chairman

Mrs. Harold F. Schuknecht

Treasurer

Mrs. John B. Eliot

Recording Secretary

Mrs. Calvin A. King

Corresponding Secretary

*Mrs. Ely A. Kirschner

Chairman Distaffers

Mrs. Henry F. Allen

Mrs. Malcolm B. Carsley

Mrs. Edgar H. Kent

Mrs. Robert F. Kurtz

Mrs. Henry Lyman, Jr.

Mrs. William A. Slade, Jr., Past Chair-

man

Members

Mrs. Manning Barry

Mrs. Maurice Berlin

Mrs. Yale J. Berry

Mrs. Harry E. Braconier

Mrs. Edwin J. Carr

Mrs. John M. Carroll

Mrs. Walter J. E. Carroll

Mrs. Frederick Casey

Mrs. Thomas Cavanaugh

Mrs. Paul A. Chandler

Mrs. Richard B. Chapman

Mrs. Julian F. Chisholm, Jr.

Mrs. Nathaniel D. Clapp

Mrs. David G. Cogan

Mrs. Thomas P. Cronin

Mrs. Colin McA. Cunningham

Miss Winifred Cunningham

Mrs. Richard C. Curtis*

Mrs. Leo F. Daley

Mrs. Benjamin C. Davis

Mrs. Livingston Davis

Mrs. Claes H. Dohlman

Mrs. David D. Donaldson

Mrs. Weld Douglass

Mrs. Edgar J. Driscoll, Jr.

Mrs. Edwin B. Dunphy

Mrs. William Ellison

Mrs. Maxwell Fish

Mrs. Richard R. Gacek

Mrs. Harold S. Geneen

Mrs. Avram J. Goldberg

Mrs. Robert L. Goodale

Mrs. Max Goodman

Mrs. W. Morton Grant

Mrs. Trygve Gundersen

Mrs. Frank L. Harrington, Jr.

Mrs. Charles Harsh

Mrs. Bartlett Harwood

Mrs. Ralph H. Hinckley Mrs. Valentine Hollingsworth

Mrs. Edgar M. Holmes

Mrs. Alfred L. Hurst

Mrs. J. Carter Inches

Mrs. Charles J. Innes

Mrs. Carl C. Johnson

Mrs. Roy A. Johnson

Mrs. Robert C. Jordan

Mrs. Varaztad H. Kazanjian*

Mrs. Victor H. Kazanjian

Mrs. Ely A. Kirschner

Mrs. Robert E. Klotz

Mrs. Clarence E. Knapp

Mrs. Charles A. Lane

Mrs. Robert H. Lofgren

Mrs. Alexander S. Macmillan

Mrs. Alexander S. Macmillan, Jr.

Mrs. David B. McClusky

Mrs. J. Wallace McMeel

Mrs. Henry D. Minot

Mrs. G. Gardner Monks

Mrs. Noel Morss

Mrs. Frederick S. Moseley, III

Mrs. Henry A. Mosher

Mrs. Stephen P. Mugar

Mrs. Ichiro D. Okamura

Mrs. George M. Olive, Jr.

Mrs. Grafton Perkins

Mrs. Silvio R. Pirquet

Mrs. Henri Prunaret

Miss Mary A. Redman

Mrs. Franklin A. Reece

Mrs. Charles D. J. Regan

Mrs. John B. Richardson*

Mrs. Phillips H. Roland, II

Mrs. Aram Roopenian

Mrs. Milton Rosenthal

Mrs. Perry Rosenthal

Mrs. Baruch J. Sachs

Mrs. Benjamin Sachs Mrs. William L. Saltonstall

Mrs. Ernest J. Sargeant

Mrs. Sullivan A. Sargent*

Mrs. Richard E. Savory

Mrs. Charles L. Schepens

Mrs. Alfred W. Scott

Mrs. Henry R. Scott

Mrs. Samuel Simons

Mrs. Albert E. Sloane

Mrs. Reginald H. Smith

Mrs. Taylor R. Smith

Mrs. Gustave M. Solomons Mrs. George E. Stephenson

Mrs. William L. Taggart, Jr.

Mrs. Thomas C. Thacher

Mrs. John E. Thayer, Jr.

Mrs. Robert Truesdale

Miss Lydia Weare

Mrs. Lyon Weyburn

Mrs. Roy R. Wheeler

Mrs. Henry E. Wile

Mrs. Robert D. Williams

Mrs. Andrew N. Winslow, Jr.

Mrs. Frederick R. H. Witherby

Mrs. Stewart C. Woodworth

Honorary Members

Mrs. Harold Peabody*

Mrs. Loretta McLaughlin

Mrs. John Ring

Associate Members

Mrs. Richard P. Breed, Jr.

Mr. and Mrs. Elliot W. Brown

Mrs. Mortimer L. Cashman

Mr. and Mrs. Winthrop B. Coffin

Mrs. Adrian J. Costanza

Mrs. David W. Donahue

Mrs. Thomas J. Drake Mrs. William Endicott, II

Mrs. James P. Fenn

Mrs. Harold E. Fitzgibbons

Mrs. Warren D. Haley

Mrs. John Hand

Mrs. John R. Haud

Mrs. E. Miles Herter

Mrs. J.J. Hindon Hyde Mrs. Erick Kaunders

Mrs. Leonard B. Kilgore

Mrs. Thomas H. Lanman

Mrs. John C.G. Loring

Mrs. Malcolm H. Masters

Mrs. Joseph McGrath Mrs. Edward C. Meyer

Mrs. Lawrence Meyns, Jr.

Mrs. George R. Minot

Mrs. John S. Morgan

Mrs. Charles F. Nayor

Mrs. Richard C. Norton

Mrs. Joseph F. O'Connell

Mrs. Emerson T. Oliver Mrs. Winthrop E. Sears

Mrs. Philip Shea Mr. and Mrs. Andre R. Sigourney

Mrs. C. Fred Smith, Jr.

Mrs. Gerard B. Townsend

Mrs. Lewis L. Wadsworth

Mr. and Mrs. Thomas J. Walsh Miss Agnes Wheeler

Mrs. Evelyn G. Whiton

Mrs. Royal C. Wilson

Mrs. George Wyshak

*Past Chairman, LVC

MASSACHUSETTS EYE AND EAR INFIRMARY COMPARATIVE STATISTICS FISCAL 1972-1973

Inpatient Hospital (170 Beds)	ADMISSIONS: Eye Patients E.N.T. Patients Total Admissions	1973 6,331 4,187 10,518	1972 6,231 4,407 10,638
	OPERATIONS: By Eye House Staff By Eye Attending Staff Total Eye Operations By E.N.T. House Staff By E.N.T. Attending Staff Total E.N.T. Operations Total Operations	1,089 5,319 6,408 1,091 2,619 3,710 10,118	1,251 5,233 6,484 1,212 2,757 3,969 10,453
	DISCHARGES: Death Autopsies PATIENT DAYS AVERAGE PATIENT CENSUS AVERAGE LENGTH OF STAY BED UTILIZATION	10,481 12 42% 53,480 146 5.10 85%	10,695 4 25% 54,138 148 5.09 84%
Outpatient Department	EYE CLINIC Total Eye Visits E.N.T. CLINIC Total E.N.T. Visits Total O.P.D. Visits	63,168 <u>23,865</u> 87,033	62,868 25,327 88,195
Emergency Ward	Eye Cases E.N.T. Cases Total	16,855 <u>14,375</u> 31,230	16,421 11,403 27,824
Minor Surgery	Eye Cases E.N.T. Cases Total	1,760 	1,671 1,113 2,784
Special Services	Audiology Cases Electroretinography Cases Fluorescein Angiography Cases Otoneurology Cases Ultrasonography Cases (first nine months of operation)	8,965 382 1,430 692 231	9,181 358 1,077 425

FINANCIAL STATEMENT

Balance Sheet — Unrestricted Funds September 30, 1973

Current Assets		* 000 000	Current Liabilities		
Cash	¢ 0.045.040	\$ 909,838	Current installments of		A 104.054
Accounts Receivable	\$ 2,845,640		long-term debt		\$ 164,854
Less allowance for	400.050	0.000.500	Accounts payable		655,592
doubtful receivables	462,058	2,383,582	Reserves for contractual		
Investments, at cost			adjustments, unemploy-		
(quoted market			ment compensation and		
value \$521,523)		464,766	other contingencies		263,512
Inventories — at		101,100	Accrued expenses		137,082
average cost		68,542	Due to restricted funds		576,544
Prepaid expenses		47,777	Total current liabilities		1 707 504
Deferred pension		71,111	Total current habilities		1,797,584
costs — current		16,400	LONG TERM DERT 1000		
costs — current			LONG-TERM DEBT, less		0.700.071
Total current assets		3,890,905	current maturity		9,763,271
			EQUITY IN UNDISTRIBUTE	D	
			SECURITY POOL GAINS		(56,195)
Other Assets					, , ,
Deferred pension			FUND BALANCES		
costs		9,018	General Operating		
Property, plant		,	fund	\$ 1,933,197	
and equipment	\$25,138,093		Depreciation fund —	, , ,	
Less accumulated	, , ,		unrestricted	390,191	
depreciation	3,010,876	22.127.217	Plant	12,199,092	14,522,480
Total unrestricted funds		\$26,027,140	Total unrestricted funds		\$26,027,140

Statement of Revenue and Expenses September 30, 1973

Patient Service Revenue Adjustment to Patient Revenue for uncollectible accounts,	\$11,277,859
free care and contractual allowances Net Revenue Service to Patients	716,171 10,561,688
Other Operating Revenue (including \$3,226,116 from Research	
and Other Specific Purpose Funds)	3,552,322
Total Operating Revenue	14,114,010
Operating Expenses:	
Patient Services (including depreciation) \$11,294,03	28
Research and Other Specific Purpose Direct Expense 3,226,1	16 14,520,144
Hospital Operating Loss	406,134
Donated Income	
United Community Services 10,65	38
Various Estates 9,69	50 20,288
Hospital Net Loss from Operations	\$ 385,846

Balance Sheet — Restricted Funds September 30, 1973

Specific Purpose Funds Cash Due from unrestricted fund Investments, at cost (quoted market value \$1,277,122)	\$ 785,049 633,620 1,181,665 	Equity in undistributed security pool gains Fund balances Special purpose Temporary Unexpended restricted income Depreciation — restricted	\$ 56,115 919,969 827,230 535,006 262,014 \$2,600,334
Building Fund Cash Construction in progress	\$ 811,175 2,564,854 \$3,376,029	Note payable to bank, unsecured Accounts payable Due to unrestricted fund Accrued interest Fund balance	\$ 500,000 891,982 57,076 9,895 1,458,953 1,917,076 \$3,376,029
Endowment Funds Cash Investments, at cost (quoted market value \$10,040,999)	\$ 14,338 8,173,360 	Equity in undistributed security pool gains Fund balances Income restricted Income unrestricted	\$3,700,586 1,630,453 2,856,659 \$8,187,698
Summary of Non-Operating Income September 30, 1973		Total Investment Income Gifts and Bequests Total	\$ 329,266 122,093 451,359

COMMITTEES

Executive

William H. Claflin, III, Chairman Ephron Catlin
Melville Chapin
Frederick H. Lovejoy
George M. Lovejoy, Jr.
Mrs. John Lowell
George A. McLaughlin
Mrs. Robert C. Meisel
Charles D. J. Regan, M.D.
Harold F. Schuknecht, M.D.
Charles T. Wood, Secretary

Finance

Ephron Catlin Melville Chapin William H. Claflin, III Thomas B. Frost William A. Parker

Building

William H. Claflin, III, Chairman Ephron Catlin
Melville Chapin
Frederick H. Lovejoy
George M. Lovejoy, Jr.
Mrs. John Lowell
George A. McLaughlin
Mrs. Robert C. Meisel
Charles D. J. Regan, M.D.
Harold F. Schuknecht, M.D.
Charles T. Wood, Secretary

Research

Richard W. Young, Ph.D., Chairman Adelbert Ames, III, M.D. John E. Dowling, M.D. Ephraim Friedman, M.D. Ralph G. Meader, Ph.D. Charles T. Wood, Executive Secretary

Human Studies

Robert Williams, Chairman
Max L. Goodman, M.D.
W. Morton Grant, M.D.
Robert S. Kimura, B.A.
Ralph G. Meader, Ph.D.
Charles D. J. Regan, M.D.
Harold F. Schuknecht, M.D.
Richard Thoft, M.D.
Charles T. Wood
Margarete L. Arndt, Secretary

Library

Abraham Pollen, M.D., Chairman
Harold Bloomquist
David G. Cogan, M.D.
Edwin B. Dunphy, M.D.
Merle Fainsod, Ph.D.
Thomas Hutchinson, M.D.
Robert S. Kimura, B.A.
Moses H. Lurie, M.D.
Harold F. Schuknecht, M.D.
Charles D. J. Regan, M.D.
Charles Snyder, Secretary and Librarian
Francis J. West, M.D.
Charles T. Wood

Archives

Moses H. Lurie, M.D. Charles Snyder, *Archivist* Francis J. West, M.D. Charles T. Wood

Salary

Ephron Catlin Melville Chapin William H. Claflin, III Charles T. Wood

Personnel and Pension

Henry K. Porter, Chairman Melville Chapin Raymond W. Lyons George A. McLaughlin Leo L. Simms Charles T. Wood

Social Service Advisory

Henry K. Porter, Chairman Barbara E. Czechowski, R.N. Mrs. Barbara J. Dawson Ruth Farrisey, R.N. Gault M. Farrell, M.D. James R. Hamill Mrs. Edgar Kent Mrs. John Lowell Moses H. Lurie, M.D. Henry A. Mosher, M.D. Thomas J. Mulvaney, M.D. Miss Kathleen O'Donoghue Charles D. J. Regan, M.D. Madeline S. Shipsey Richard Thompson, Ph.D. Alfred D. Weiss, M.D. Charles T. Wood

Accreditation

Charles T. Wood, Chairman Margarete L. Arndt Barbara E. Czechowski, R.N. Max L. Goodman, M.D. James R. Hamill Francis S. Hill Herbert Kirshnit Raymond W. Lyons August R. Meyer Charles D. J. Regan, M.D. Karl Riemer, M.D., ex officio Harold F. Schuknecht, M.D. Madeline Shipsey Porter H. Smith, M.D. Charles Snyder John Webb Sidney Wilker

Animal Farm

John W. Irwin, M.D., Chairman Alan Bachrach, Jr., V.M.D. Claes H. Dohlman, M.D. Cecil Drinker Raymond W. Lyons, Secretary Edgar B. Taft, M.D.

MEDICAL STAFF

(All listings are as of December 31, 1973)

Ophthalmology

ACTIVE STAFF

Chief of Ophthalmology
Claes H. Dohlman, M.D.

Associate Chief of Ophthalmology Charles D. J. Regan, M.D.

Surgeons in Ophthalmology
W. Morton Grant, M.D.
Abraham Pollen, M.D.
Karl Riemer, M.D.
Alfred W. Scott, M.D.
David H. Scott, M.D.
Taylor R. Smith, M.D.

Associate Surgeons in Ophthalmology
D. Robert Alpert, M.D.
S. Arthur Boruchoff, M.D.
Robert J. Brockhurst, M.D.
Thomas P. Cronin, M.D.
David D. Donaldson, M.D.
Warren D. Haley, M.D.
Ichiro D. Okamura, M.D.

Assistant Surgeons in Ophthalmology Lloyd M. Aiello, M.D. John M. Carroll, M.D. Richard B. Chapman, M.D. Hal MacKenzie Freeman, M.D. Carl G. Freese, Jr., M.D. Stephen J. Fricker, M.D. George E. Garcia, M.D. John R. Gehring, M.D. Ralph H. Hinckley, M.D. Roland E. Houle, M.D. B. Thomas Hutchinson, M.D. Robert C. Lawlor, M.D. Byron S. Lingeman, M.D. J. Wallace McMeel, M.D. George M. Olive, M.D. Irving L. Pavlo, M.D. Robert A. Petersen, M.D. Richard M. Robb, M.D. Perry Rosenthal, M.D. Baruch J. Sachs, M.D. Richard J. Simmons, M.D. Donald R. Weis, M.D.

Michael Wiedman, M.D.

Assistants in Ophthalmology Robert A. Bellows, M.D. Eliot L. Berson, M.D. Charles K. Beyer, M.D. Don Carl Bienfang, M.D. Chester J. Boulris, M.D. David G. Campbell, M.D. Leo T. Chylack, M.D. Eugene C. Ciccarelli, M.D. Richard L. Dallow, M.D. Robert A. D'Iorio, M.D. Elliot M. Finkelstein, M.D. Albert R. Frederick, M.D. Alexander R. Gaudio, M.D. Robert A. Gorn, M.D. Arthur S. Grove, M.D. David A. Hill, M.D. Paul D. Hurley, M.D. Eric H. Johnson, M.D. Joseph C. Kim, M.D. Robert S. L. Kinder, M.D. Mohandas M. Kini, M.D. Joel Arthur Kraut, M.D. Arnold J. Kroll, M.D. Brent W. Lambert, M.D. Deborah P. Langston, M.D. Eeva Liisa Martola, M.D. Ernest J. Meyer, M.D. Joseph Michon, M.D. David Miller, M.D. Peter B. Mooney, M.D. Edward Murphy, Jr., M.D. Roger V. Ohanesian, M.D. Silvio Pirquet, M.D. Ronald C. Pruett, M.D. Gerald D. Rogell, M.D. John G. Sebestyen, M.D. Harvey H. Slansky, M.D. Richard A. Thoft, M.D. Filipe L. Tolentino, M.D. David S. Walton, M.D. *Shirley H. Wray, M.D.

Consulting Chiefs of Ophthalmology
Henry F. Allen, M.D.
Paul A. Chandler, M.D.
David G. Cogan, M.D.
Edwin B. Dunphy, M.D.

Senior Consulting Surgeons in Ophthalmology William P. Beetham, M.D. Harry E. Braconier, M.D. Virgil G. Casten, M.D. Joseph M. Clough, M.D. Mahlon T. Easton, M.D. Trygve Gundersen, M.D. Carl C. Johnson, M.D. Brendan D. Leahey, M.D. Henry A. Mosher, M.D. Charles L. Schepens, M.D. Earl S. Seale, M.D. Albert E. Sloane, M.D. Garrett L. Sullivan, M.D. Francis J. West, M.D. Sumner D. Liebman, M.D.

Senior Consulting Ophthalmic Pathologist Parker Heath, M.D.

HONORARY STAFF

Associate Surgeons in Ophthalmology Frederick B. Breed, M.D. John M. Hill, M.D. Charles H. MacLaughlin, M.D.

Assistant Surgeons in Ophthalmology
Julian F. Chisholm, M.D.
Linley C. Happ, M.D.
Arthur M. Morrissey, M.D.
Bertha Offenbach, M.D.
Paul M. Runge, M.D.

Glaucoma Consultation Service W. Morton Grant, M.D., Director

Cornea Service
Claes H. Dohlman, M.D., Director

Ocular Motility Service ... Stephen J. Fricker, M.D., Director

Corneal Contact Lens Service Perry Rosenthal, M.D., Director

Ophthalmic Pathology
Taylor R. Smith, M.D., Director

ASSOCIATE STAFF — OPHTHALMOLOGY

Assistants in Ophthalmology
John F. Griffin, M.D.
Barry H. Jacobs, M.D.

RESIDENTS IN OPHTHALMOLOGY Steven N. Benjamin, M.D. William P. Boger, M.D. Robert B. Cook, M.D. David L. Epstein, M.D. Richard P. Floyd, M.D. Mitchell H. Friedlaender, M.D. Paul L. Gunderson, M.D. William S. Holt, M.D. Jay H. Kaufman, M.D. Robert T. Lacy, M.D. Raymond Liggio, M.D. David A. Newsome, M.D. David G. Perkins, M.D. Paul E. Pataky, M.D. Charles T. Post, M.D. Donald W. Putnoi, M.D. Lawrence I. Rand, M.D. Stephen F. Sullivan, M.D. Daniel W. Tolpin, M.D. David M. Tracy, M.D. George M. Violin, M.D. Martin Wand, M.D.

Clinical Fellows in Ophthalmology Afzal Ahmad, M.D. Duncan P. Anderson, M.D. Frank C. Bell, M.D. Harrison D. Cavanagh, M.D. Suresh R. Chandra, M.D. lan J. Constable, M.D. Gault M. Farrell, M.D. James M. Gordon, M.D. Evangelos Gragoudas, M.D. David Greenseid, M.D. Gary S. Gutow, M.D. Tatsuo Hirose, M.D. James S. Kelley, M.D. Faruk M. Koreishi, M.D. Roger Langston, M.D. Jaime V. Lapus, M.D. James R. Lee, M.D. Worldster Sei-Ming Lee, M.D. James P. McCulley, M.D. Leslie Nesmith, M.D. George S. Novalis, M.D. Robert A. Ralph, M.D. Hidenao Toyofuku, M.D. Clement Trempe, M.D. Edmund Van Buskirk, M.D.

Research Fellow in Ophthalmology Maria Teresa Aparicio, M.D.

New England Eye Bank

Maryellen McEvoy
Executive Director
S. Arthur Boruchoff, M.D.
Medical Director

Executive Committee
Jules L. Baum, M.D.
David G. Cogan, M.D.
Mrs. Richard Cary Curtis
Claes H. Dohlman, M.D.
Leonard S. Gottleib, M.D.
Brendan D. Leahey, M.D.
Howard M. Leibowitz, M.D.
Robert E. Scully, M.D.
Mrs. William A. Slade, Jr.

Medical Staff Executive

Karl Riemer, M.D., Chairman Thomas P. Cronin, M.D. Claes H. Dohlman, M.D. Thomas Klein, M.D. John M. Kurkjian, M.D. John E. McKeigue, M.D. Charles D. J. Regan, M.D. Harold F. Schuknecht, M.D. Richard Simmons, M.D. Bernard Zonderman, M.D. Charles T. Wood

MEDICAL STAFF

Otolaryngology

ACTIVE STAFF

Chief of Otolaryngology
Harold F. Schuknecht, M.D.

Surgeons in Otolaryngology
Alfred L. Hurst, M.D.
Robert E. Klotz, M.D.
Donald K. Lewis, M.D.
John E. McKeigue, M.D.
Daniel Miller, M.D.
William W. Montgomery, M.D.
Sidney R. Wilker, M.D.

Associate Surgeons in Otolaryngology

Yale J. Berry, M.D.
Allan G. Edwards, M.D.
Richard R. Gacek, M.D.
Louis E. Griffey, M.D.
William L. Hayden, M.D.
Roy A. Johnson, M.D.
Donald G. Keamy, M.D.
Thomas R. Klein, M.D.
John M. Kurkjian, M.D.
Robert H. Lofgren, M.D.
*Aaram Roopenian, M.D.
John C. Trakas, M.D.

Assistant Surgeons in Otolaryngology
Robert V. Cheren, M.D.
Charles W. Cummings, M.D.
C. Edward Jackson, M.D.
Clarence E. Kylander, M.D.
Carl M. Leiberman, M.D.
Rufus C. Partlow, M.D.
David L. Pierce, M.D.
Albert Weiser, M.D.

Assistants in Otolaryngology
Robert L. Baldwin, M.D.
David D. Burtner, M.D.
Vincent G. Caruso, M.D.
Robert P. Cipro, M.D.
*Howard M. Ecker, M.D.
*Richard L. Fabian, M.D.
David M. Metzner, M.D.
Joseph A. Moretti, M.D.
**Stephen A. Parker, M.D.
John J. H. Schwarz, M.D.
Marshall Strome, M.D.
**Alfred D. Weiss, M.D.
Ernest A. Weymuller, M.D.

William R. Wilson, M.D.

Subdivision of Plastic Surgery
Aaram Roopenian, M.D., Associate
Surgeon in Plastic Surgery
Howard M. Ecker, M.D., Assistant
in Plastic Surgery
Richard L. Fabian, M.D., Assistant
in Plastic Surgery

Subdivision of Otoneurology
Alfred D. Weiss, M.D., Assistant
in Otoneurology
Stephen Parker, M.D., Assistant
in Otoneurology

Subdivision of Otolaryngologic Pathology Max L. Goodman, M.D., Director

Tumor Clinic
Daniel Miller, M.D., Director

Endoscopy Service
William W. Montgomery, M.D.,
Director

Esophageal Voice Classes Ann Volk, Director

Consulting Chief of Otolaryngology LeRoy A. Schall, M.D.

Senior Consulting Surgeons in Otolaryngology
Walter J. E. Carroll, M.D.
Charles J. Drooker, M.D.
Carl H. Ernlund, M.D.
Maurice G. Evans, M.D.
John R. Frazee, M.D.
Robert L. Goodale, M.D.
Edgar M. Holmes, M.D.
*Varaztad H. Kazanjian, M.D.
Vincent J. Kelley, M.D.
Moses H. Lurie, M.D.
John R. Richardson, M.D.

HONORARY STAFF

Francis L. Weille, M.D. Bernard Zonderman, M.D.

Associate Surgeons in Otolaryngology
Charles Kent, M.D.
Herman J. Sternstein, M.D.

Assistant Surgeon in Otolaryngology Elizabeth DeBlois, M.D.

Assistants in Otolaryngology Frank W. Brady, M.D. Morris Swartz, M.D.

ASSOCIATE STAFF

Associate Surgeons in Otolaryngology Werner D. Chasin, M.D. Robert Wayne Clubb, M.D.

RESIDENTS IN OTOLARYNGOLOGY Burlin H. Ackles, M.D. Allan Goldstein, M.D. Victor M. Gotay-Rodriguez, M.D. Charles Gruenwald, M.D. James M. Hardy, M.D. Edward E. Jacobs, M.D. Ely A. Kirschner, M.D. Andrew W. Klein, M.D. Bruce H. Klenoff, M.D. William G. Lavelle, M.D. Steven A. Metzger, M.D. Thomas J. Mulvaney, M.D. Joseph Nadol, Jr., M.D. Angelo Pappanikou, M.D. Bernard D. Sklansky, M.D. Donald P. Shapiro, M.D. Robert Sofferman, M.D. Robert E. Whited, M.D.

*Plastic Surgery
**Otoneurology

MEDICAL STAFF Common to Both Services

Department of Anesthesiology

Chief of Anesthesiology Porter H. Smith, M.D.

Assistant Anesthesiologist Audrey A. Lewis, M.D.

Assistants in Anesthesiology
Daniel F. Dedrick, M.D.
Thomas J. Keenan, M.D.
Jin Woo Kim, M.D.
Chull H. Lee, M.D.
Fatin Onat, M.D.
Ismail Seda Sensel, M.D.
Stephen J. Thomas, M.D.

Clinical Fellows in Anesthesiology
Mohamed Abd-Allah, M.D.
Leonido Benedito, M.D.
Eduardo Mancini, M.D.
Dae Ik Sonn, M.D.

Department of Radiology

Director of Radiology Alfred L. Weber, M.D.

Radiologists
Alexander S. MacMillan, Jr., M.D.
Kiyokauzu J. Momose, M.D.

Consultants in Radiotherapy Milford D. Schulz, M.D. Herman D. Suit, M.D. Chiu-Chen Wang, M.D.

Consultant in Internal Medicine Richard Field, M.D.

Microbiology

Microbiologist
Anita Mangiaracine, A.B.

Supervisor of the Clinical Laboratories
Janis Avallone LaRosee

The members of the medical staff of the Massachusetts General Hospital are consultants to the Infirmary, and in this capacity become a part of the consulting staff of the Massachusetts Eye and Ear Infirmary.

RESEARCH STAFF

Department of Ophthalmology

Howe Laboratory of Ophthalmology

David G. Cogan, M.D. W. Morton Grant, M.D. Jin H. Kinoshita, Ph.D. Toichiro Kuwabara, M.D. David D. Donaldson, M.D. Stephen J. Fricker, M.D. Shirley H. Wray, M.D. A. Robert Bellows, M.D. Don C. Bienfang, M.D. David G. Campbell, M.D. Leo T. Chylack, Jr., M.D. Richard L. Dallow, M.D. Judith A. Jedziniak, Ph.D. Donovan J. Pihlaja, Ph.D. Henry N. Fukui, Ph.D. Cecil K. Drinker, A.B. Charles Snyder, Librarian

Special Fellows

Maria Teresa Aparicio, M.D. Richard E. Appen, M.D. Stephen R. Depperman, M.D. David L. Epstein, M.D. Yasuna Hamai, M.D. Edmund M. van Buskirk, M.D.

Research Associate in Ophthalmology Ernest G. Wolf, Ph.D.

Laboratory for the Study of Retinal Degenerations

Eliot L. Berson, M.D., Director

Department of Otolaryngology

Eaton Peabody Laboratory of Auditory Physiology

Director of Eaton Peabody Laboratory Nelson Y. S. Kiang, Ph.D.

Research Associates in Eaton Peabody Laboratory

Steven H. Colburn, Ph.D.
Julius L. Goldstein, Ph.D.
John J. Guinan, Jr., Ph.D.
Eileen Cohen Kane, Ph.D.
Donald K. Morest, M.D.
Edwin C. Moxon, Ph.D.
Michael J. Mulroy, Ph.D.
William T. Peake, Sc.D.
Walter A. Rosenblith, M.D.
Thomas F. Weiss, Ph.D.

Research Assistants in Eaton Peabody Laboratory

Terrance Bourk, M.D. Don H. Johnson, E.E. Michael Liberman, B.A. Norman Megill, B.S. Victor Nedzelnitsky, M.S.

Research Support Engineers, Eaton Peabody Laboratory David Altmann, B.S. Alan H. Crist, B.S. David A. Steffens, B.S.

Microcirculatory Laboratory

John W. Irwin, M.D.

Histopathology Laboratory

Harold F. Schuknecht, M.D. William W. Montgomery, M.D. Richard R. Gacek, M.D.

Electron Microscopy Laboratory

Research Associate
Robert S. Kimura, B.A.

Clinical Fellows

Abdel-Aziz Belal, M.D. Didier L. Peren, M.D. Terence J. Stewart, M.D.

Research Fellows

Joe Claud Adams, Ph.D. Francisco Antoli Candela, M.D. Ulf Rasmussen, Ph.D.

Harvard Medical School Faculty

Department of Ophthalmology

Head of the Department and Professor of Ophthalmology Claes H. Dohlman, M.D.

Henry Willard Williams Clinical Professor of Ophthalmology Henry F. Allen, M.D.

Professors of Ophthalmology
David G. Cogan, M.D.
W. Morton Grant, M.D.

Professor of Biochemical Ophthalmology Jin H. Kinoshita, Ph.D.

Professor of Pathology in the Department of Ophthalmology Toichiro Kuwabara, M.D.

Associate Professors of Ophthalmology
David D. Donaldson, M.D.
Charles D. J. Regan, M.D.

Associate Clinical Professors of Ophthalmology Charles L. Schepens, M.D. Taylor R. Smith, M.D. Carl C. Johnson, M.D.

Assistant Professors of Ophthalmology
Eliot L. Berson, M.D.
Stephen J. Fricker, M.D.
David Miller, M.D.
Richard M. Robb, M.D.

Assistant Professor of Biomedical Ophthalmology
Liane Reif-Lehrer, Ph.D.

Assistant Clinical Professors of Ophthalmology

S. Arthur Boruchoff, M.D.
Robert J. Brockhurst, M.D.
H. MacKenzie Freeman, M.D.
B. Thomas Hutchinson, M.D.
J. Wallace McMeel, M.D.
Alfred W. Scott, M.D.
Richard J. Simmons, M.D.
Albert E. Sloane, M.D.

Clinical Associate in Ophthalmology Sumner D. Liebman, M.D.

Lecturers on Ophthalmology Endre A. Balazs, M.D. Abraham Pollen, M.D. Associates in Ophthalmic Research Cecil K. Drinker, A.B. Henry N. Fukui, Ph.D.

Associate in Ophthalmology (Electrical Engineering) Arnold R. Rabin, M.S., E.E.

Instructors in Ophthalmology
Arnold R. Bellows, M.D.
Don Carl Bienfang, M.D.
Leo T. Chylack, Jr., M.D.
Robert A. Petersen, M.D.
David S. Walton, M.D.

Clinical Instructors in Ophthalmic Research Judith A. Jedziniac, Ph.D. Donovan J. Pihlaja, Ph.D.

Clinical Instructors in Ophthalmology Lloyd M. Aiello, M.D. D. Robert Alpert, M.D. Charles K. Beyer, M.D. Harry E. Braconier, M.D. Frederic B. Breed, M.D. John M. Carroll, M.D. Richard B. Chapman, M.D. Eugene C. Ciccarelli, M.D. Thomas P. Cronin, M.D. Richard L. Dallow, M.D. Elliot M. Finkelstein, M.D. Albert R. Frederick, M.D. Carl G. Freese, M.D. George Edward Garcia, M.D. John R. Gehring, M.D. Arthur S. Grove, M.D. Ralph H. Hinckley, M.D. Roland E. Houle, M.D. Mohandas M. Kini, Ph.D., M.D. Deborah Pavan-Langston, M.D. Robert C. Lawlor, M.D. Byron S. Lingeman, M.D. Henry A. Mosher, M.D. George M. Olive, Jr., M.D. Irving L. Pavlo, M.D. Ronald C. Pruett, M.D. Karl Riemer, M.D. Perry Rosenthal, M.D. Baruch J. Sachs, M.D. David H. Scott, M.D. Earle S. Seale, M.D.

Harvey H. Slansky, M.D. Richard A. P. Thoft, M.D.

George A. Violin, M.D. Donald R. Weis, M.D. Jeremy B. Whitney, M.D. Michael Wiedman, M.D.

Clinical Assistants in Ophthalmology
Robert A. Gorn, M.D.
David A. Hill, M.D.
Eric H. Johnson, M.D.
Joseph C. Kim, M.D.
Joel A. Kraut, M.D.
Brent W. Lambert, M.D.
John G. Sebestyen, M.D.

Research Fellows in Ophthalmology Richard E. Appen, M.D. Stephen R. Deppermann, M.D. Leathem Mehaffey, III, Ph.D. Michael A. Sandberg, M.D.

Clinical Fellows in Ophthalmology Steven N. Benjamin, M.D. Robert B. Cook, M.D. Gault M. Farrell, M.D. Richard P. Floyd, M.D. Mitchell H. Friedlaender, M.D. William S. Holt, M.D. Jay H. Kaufman, M.D. Robert T. Lacy, M.D. James R. Lee, M.D., C.M. James P. McCulley, M.D. David G. Perkins, M.D. Donald W. Putnoi, M.D. Daniel W. Tolpin, M.D. David M. Tracy, M.D. Martin Wand, M.D.

Department of Otolaryngology

Head of the Department, Walter Augustus LeCompte Professor of Otology, and Professor of Laryngology Harold Frederick Schuknecht, M.D.

Professor of Otolaryngology
William Wayne Montgomery, M.D.

Associate Professor of Otolaryngology Richard Raymond Gacek, M.D.

Associate Professor of Otolaryngology Daniel Miller, M.D.

Assistant Professors of Otolaryngology
Pierre Blaze Montandon, M.D.
Marshall Strome, M.D.

Assistant Clinical Professors of Otolaryngology
Charles William Cummings, M.D.
Burton Frederick Jaffe, M.D.
Robert Harding Lofgren, M.D.

Assistant Professor of Neurology Alfred David Weiss, M.D.

Assistant Professor of Pathology
Max Lawrence Goodman, M.D.

Instructor in Neurology
Stephen William Parker, M.D.

Clinical Instructor in Otolaryngology Richard Louis Fabian, M.D.



PUBLICATIONS

October 1, 1972 — September 30, 1973

*First Author in Capitals.

Department of Ophthalmology Surgical and Research Staffs

*ALLEN, Henry F.: "Amphotericin B and Exogenous Mycotic Endophthalmitis after Cataract Extraction." Arch. Oph-thalmol. 88:640-644, Dec. 1972. ALLEN, Henry F.: "Curent Status of

Prevention, Diagnosis and Management of Bacterial Corneal Ulcers." Chapter 3 in: Contemporary Ophthalmology Honoring Sir Stewart Duke-Elder, edited by J. G. Bellows. Baltimore, Wil-

liams & Wilkins, 1972. pp. 45-46. Allen, Henry F., VALENTON, M. J., and Brubaker, R.F.: "Staphylococcus Epidermidis (Albus) Endophthalmitis. Report of 2 Cases after Cataract Extraction." Arch. Ophthalmol. 89: 94-96,

Feb. 1973.

ALLEN, Henry F. and Mangiaricine, A. B.: "Bacterial Endophthalmitis after Cataract Extraction: II. Incidence in 36,000 Consecutive Operations with Special Reference to Preoperative Topical Antibiotics." Trans. Am. Acad. Ophthalmol. Otolaryngol. 77:581-588, Sept.-Oct. 1973

ASHRAFZADEH, Mohammed T., Schepens, C. L., and Lee, P. F.: "Vitreous Surgery, VII. Corneal Protector for

Subtotal Vitrectomy." Arch. Ophthal-mol. 89:138-142, Feb. 1973. ASHRAFZADEH, Mohammed T., Sche-pens, C. L., and Elzeneiny, I. I.: "Aphakic and Phakic Retinal Detachment. I. Preoperative Findings." Arch. Ophthalmol. 89:476-483, June 1973

BELLOWS, A. Robert and Grant, W. M.: "Cyclocryotherapy in Advanced Inadequately Controlled Glaucoma." Am.

J. Ophthalmol. 75:679-684, April 1973. BERSON, Eliot L.: "Experimental and Therapeutic Aspects of Photic Damage to the Retina." Invest. Ophthalmol.

12:35-44, Jan. 1973

BERSON, Eliot L., Mehaffey, L., III, and Rabin, A. R.: "A Night Vision Device as an Aid for Patients with Retinitis
Pigmentosa." Arch. Ophthalmol. 90:
112-116, Aug. 1973.
Berson, Eliot L., RABIN, A. R., and
Hayes, K. C.: "Cone and Rod Responses

in Nutritionally Induced Retinal Degeneration in the Cat." Invest. Oph-

thalmol. 12:694-705, Sept. 1973. BERSON, Eliot L.: "Retinitis Pigmentosa, the Electroretinogram, and Mendel's Law." Trans. Penn. Acad. Ophthalmol. Otolaryngol. 26:109-113, Fall 1973. BEYER, Charles K. and Carroll, J. M.:

'Moderately Severe Cicatricial Entropion." Arch. Ophthalmol. 89:33-35, Jan. 1973.

Beyer, Charles K. (See CARROLL, J. M.) BIENFANG, Don C.: "Sector Pupillary Dilatation with an Epinephrine Strip." Am. J. Ophthalmol. 75:883-884, May 1973

CARROLL, John M. and Beyer, C. K.: Conjunctivodacryocystorhinostomy Using Silicone Rubber Lacrimal Tubes." Arch. Ophthalmol. 89:113-115, Feb.

Carroll, John M. (See Beyer, C. K.) CHANDLER, Paul A. and Simmons, R. J.: "Gonioscopy During Surgery for Aphakic Eyes with Pupillary Block.' Am. J. Ophthalmol. 74:571-580, Oct. 1972. Also in: Trans. Am Ophthalmol.

Soc. 70:199-219, 1972.

CHYLACK, Leo T., Jr. and Kinoshita, J. H.: "The Interaction of the Lens and the Vitreous. Part II. The Influence of the Vitreous on the Lens, Trauma, Water, and Electrolyte Balance and Osmotic Stress." Exp. Eye Res. 15:61-69, Jan. 1973.

CHYLACK, Leo T., Jr.: "Human Lens Hexokinase." Exp. Eye Res. 15:225-

233, Feb. 1973.

Ciccarelli, Eugene G. (See GEHRING,

COGAN, David G.: "Benign Vacuolated Melanomas of the Ciliary Body. Chapter 37 in: Contemporary Ophthalmology, Honoring Sir Stewart Duke-Elder, edited by J. G. Bellows. Baltimore, Williams & Wilkins, 1972.

pp. 377-381. COGAN, David G.: "Visual Hallucinations as Release Phenomena." Graefe Arch. Ophthalmol. 188:137-150, 1973.

COGAN, David G., Truman, J. T. and Smith, T. R.: "Optic Neuropathy, Chloramphenicol, and Infantile Genetic Agranulocytosis." Invest. Ophthalmol. 12:534-537, July 1973.

COGAN, David G. and Kuwabara, T.: "The Eye." Chapter 32 in: Histology, 3rd ed., edited by R. O. Greep and L. Weiss, New York, McGraw-Hill, 1973.

Weiss. New York, McGraw-Hill, 1973.

op. 936-1003.

COHEN, David N.: "Temporal Arteritis: Improvement in Visual Prognosis and Management with Repeat Biopsies. Trans. Am. Acad. Ophthalmol. Otol. 77:74-85, Jan. -Feb. 1973. CONSTABLE, Ian J. and Swann, D. S.: "Biological Vitreous Substitutes. In-

flammatory Responses in Normal and

Altered Animal Eyes." Arch. Ophthalmol. 88:544-548, Nov. 1972.
Constable, Ian J., LAM, K. and Schepens, C. L.: "Subretinal Fluid: Isoenzymes and Cytologic Studies." Invest. Ophthalmol. 11:1037-1043, Dec. 1972.

Dahl, Andrew A. (See KINI, M. M.) DOHLMAN, Claes H., Pavan-Langston, D. and Ross, J.: "A New Ocular Insert Device for Continuous Constant-Rate Delivery of Medication to the Eye. Ann. Ophthalmol. 4:823-832, Oct. 1972. DOHLMAN, Claes H. and Slansky, H. H.: "Pathophysiology and Prevention of Corneal Ulcers." Chapter 4 in: Contemporary Ophthalmology, Honoring Sir Stewart Duke-Elder, edited by J. G. Bellows. Baltimore, Williams & Wilkins, 1972. pp. 57-63. Dohlman, Claes H. (See PAVAN-LANG-

STON, D., Sullivan, W. R.)
DONALDSON, David D.: "Corneal Degeneration." Ann. Ophthalmol. 5:561-565, passim, May 1973.

DONALDSON, David D.: "A New Instrument for Keratography." Arch. Ophthalmol. 88:425-428, Oct. 1972.

EPSTEIN, David L., Schaklett, D. E., and Tredici, T. J.: "Idiopathic Central Stress Retinopathy (Choroidopathy) in Flying Personnel." Aerosp. Med. 43:1251-1252, Nov. 1972. Epstein, David L. (See FUKUI, H. H.)

FREEMAN, H. MacKenzie: "Massive Preretinal Retraction: Diagnosis, Pathogenesis and Treatment." An. Inst. Baraquer 10:357-364, 1971-72.

FREEMAN, H. MacKenzie: "Vitreous Surgery: X. Current Status of Vitreous Surgery in Cases of Rhegmatogenous Retinal Detachment." Trans. Am. Acad. Ophthalmol. Otol. 77:202-215, Marchagil 1072 April 1973

FREEMAN, H. MacKenzie: "Recent Advances in Vitreous Surgery." Invest Ophthalmol. 12:549-551, Aug. 1973.

FUKUI, Henry H., Epstein, D. L., and Kinoshita, J. H.: "Ascorbic Acid Effects on Lens 86:8040-055. Est. 1970." Exp. Eye Res. 15:249-253, Feb. 1973

GEHRING, John R. and Ciccarelli, E. C.: Trichloracetic Acid Treatment of Filtering Blebs Following Cataract Extraction." Am. J. Ophthalmol. 74:622-

624, Oct. 1972.
GRANT, W. Morton: "Laboratory Research." Chapter in: Contemporary Ophthalmology. St. Louis, Mosby, 1972.

pp. 142-148.

pp. 142-148.
GRANT, W. Morton: "Drug Intoxications and Chemical Injuries." Chapter in:
Modern Ophthalmology, Vol. 2, 2nd ed., edited by A. Sorsby. London,
Butterworths, 1972. pp. 661-683.
GRANT, W. Morton: "Shallowing of the Anterior Chamber Following Occlusion of the Central Retinal Vein." Am

sion of the Central Retinal Vein." Am J. Ophthalmol. 75:384-389, March 1973.

J. Ophthalmol. 75:384-389, March 1973
GRANT, W. Morton: "Antiglaucoma
Drugs: Problems with Carbonic Anhydrase Inhibitors." Chapter 4 in: Symposium on Ocular Therapy, Vol. 6., edited by I. H. Leopold. St. Louis, Mosby, 1973. pp. 19-38.
Grant, W. Morton and ANDERSON, D. R.: "The Influence of Position on Intraocular Pressure" Invest. Ophthal-

Intraocular Pressure." Invest. Ophthal-

mol. 12:204-212, March 1973. Grant, W. Morton. (See BELLOWS, A. R.; HOULE, R.E.; JOHNSTONE, M. A.; KINI, M. M.)

GROVE, Arthur S. and Kotner, L.M. Radionuclide Arteriography in Ophthalmology." Arch. Ophthalmol. 89:13-17, Jan. 1973. GROVE, Arthur S. and Kotner, L. M.:

"Orbital Scanning with Multiple Radio-nuclides." Arch. Ophthalmol. 89:301-305, April 1973.

HIROSE, Tatsuo, Lee, K.Y., and Schepens, C.L.: "Wagner's Hereditary Vitroretinal Degeneration and Retinal Detachment." Arch. Ophthalmol. 89:176-185, March 1973.

HOLT, William S. and Kinoshita, J. H.: 'The Soluble Proteins of the Bovine Cornea." Invest. Ophthalmol. 12:114-

126, Feb. 1973.

HOULE, Roland E. and Grant, W. M.: "Zinc Chloride Keratopathy and Cataracts." Am. J. Ophthalmol. 75:992-996, June

JOHNSTONE, Murray A., Grant, W. M. and Sullivan, W. R.: "Experimental Zinc Chloride Ocular Injury and Treatment with Disodium Edétate." Am. J. Ophthalmol. 76:137-142, July 1973.

JOHNSTONE, Murray A. and Grant, W. M.: "Pressure-Dependent Changes in Structures of the Aqueous Outflow System of Human and Monkey Eyes." Am. J. Ophthalmol. 75:365-385, March

KINDER, Robert S. L.: "Continuing Education — One Specialty's Approach." R. I. Med. J. 56:371-372, Sept. 1973. KINI, Mohandas M., et al.: "Echotiophate,

Pilocarpine, and Open-Angle Glaucoma." Arch. Ophthalmol. 89:190-192, March 1973.

Kinoshita, Jin H. (See CHYLACK, L. T.,

Jr.; FUKUI, H. N.; HOLT, W. S.) KRAUT, Joel A.: "An Approach to the Patient with Sub-Normal Vision." N. Engl. J. Optom. 23:293-295, Dec. 1972. Kraut, Joel A. (See SLOANE, A.E.)

Kuwabara, Toichiro (See COGAN, D. G.;

ROBB, R. M.)

Lehwalder, Laurus W. (See KINI, M. M.) McCulley, James P. (See PAVAN-LANG-STON, D.; SULLIVAN, W. R.)

Mangiaracine, Anita B. (See ALLEN, H.

MARMOR, Michael F.: "Transient Accommodative Paralysis and Hyperopia in Diabetes." Arch. Ophthalmol. 89:

419-421, May 1973.

MARMOR, Michael F.: "Hereditary Vertical Nystagmus." Arch. Ophthalmol. 90:107-111, Aug. 1973.

MILLER, David, Zuckerman, J. L., and Reynolds, G. O.: "Phase Aberration Balancing of Cataracts Using Holography." Eve Res. 15:157-160 raphy." Exp. Eye Res. 15:157-160, Feb. 1973.

MILLER, David et al.: "Degradation of Vision through a Simulated Cataract." Invest. Ophthalmol. 12:213-224, March

MILLER, David: "Role of the Tear Film in Contact Lens Wear." Int. Ophthalmol. Clin. 13:247-262, Spring 1973.

Miller, David and LANCON, M.: "Corneal Hydration, Visual Acuity and Glare Sensitivity." Arch. Ophthalmol. 90:227-230, Sept. 1973.

MILLER, David: Intraocular Light Scattering; Theory and Clinical Application, with George Benedek. Springfield, III.,

Thomas, 1973. 121 pp.
PAVAN-LANGSTON, Deborah and Mc-Culley, J. P.: "Herpes Zoster Dendritic Keratitis." Arch. Ophthalmol. 89:25-29, Jan. 1973.

PAVAN-LANGSTON, Deborah: "Potential Use of Ocular-Insert Therapy in Dry Eyes." Int. Ophthalmol. Clin. 13:231-

238, Spring 1973. PAVAN-LANGSTON, Deborah, Dohlman, C. H., Geary, P., and Sulzewski, D.: 'Intraocular Penetration of Ara A and Idu-Therapeutic Implications in Clinical Herpetic Uveitis." Trans. Am. Acad. Ophthalmol. Otol. 77:455-466, July-

Aug. 1973.
PAVAN-LANGSTON, Deborah and Dohlman, C. H.: "The Cornea and Sciera."
Chapter in: Year Book of Ophthalmology, 1973, edited by W. H. Hughes. Chicago, Year Book Medical Pub. Co.,

1973. pp. 76-136

Pavan-Langston, Deborah (See DOHL-MAN, C. H.)

PRUETT, Ronald C., Calabria, G. A. and Schepens, C. L.: "Collagen Vitreous Substitute. I. Experimental Study." Arch. Ophthalmol. 88:540-543, Nov.

PRUETT, Ronald C. and Wepsic, J. G.: 'Delayed Diagnois of Chiasmal Compression." Am. J. Ophthalmol. 76:229-236, Aug. 1973.

Pruett, Ronald C., WEPSIC, J. G., and Tarlov, E.: "Carotid Cavernous Fistula Due to Extradural Subtemporal Retrogasserian Rhizotomy." J. Neurosurg. 37:498-500, Oct. 1972.

ROBB, Richard M. and Kuwabara, T.: The Ocular Pathology of Type A Niemann-Pick Disease. A Light and Electron Microscope Study." Invest.

Ophthalmol. 12:366-377, May 1973. ROSENTHAL, Perry: "Corneal Contact Lens Edema" and "Use of Corneal Contact Lenses in the Management of Keratoconus." Chapters 4 and 8 in: Symposium on Contact Lenses, New Orleans, 1972. (Transactions New Orleans Academy of Ophthalmology, 1972.) St. Louis, Mosby, 1973. pp. 53-64; 101-108.

Schepens, Charles L., BANUELOS, A. and Rofojo, M. F.: "Expandible Silicone Implants for Scieral Buckling." Arch. Ophthalmol. 89:500-502, June 1973.

Schepens, Charles L. (See ASHRAFZA-DEH, M. T.; Constable, I. J.; HIROSE, T.; PRUETT, R. C.)

Simmons, Richard J. (See CHANDLER,

Slansky, Harvey H. (See DOHLMAN, C.

SLOANE, Albert E. and Kraut, J. A.: Spasm of Accommodation." Docum. Ophthalmol. 34:365-369, Feb. 1973.

Smith, Taylor R. (See COGAN, D. G.) SULLIVAN, Garrett L.: "Caveat Chirurgicus." Trans. Am. Ophthalmol. Soc.

70:328-336, 1972.
SULLIVAN, William R., McCulley, J. P., and Dohlman, C. H.: "Return of Goblet Cells after Vitamin A Therapy in Xerosis of the Conjunctiva." Am. J Ophthalmol. 75:720-725, April 1973

Sullivan, William R. (See JOHNSTONE,

Department of Otolarynogology Surgical and Research Staffs

*BURTNER, David, Goodman, M. L., and Montgomery, W. W.: "Elastic Cartilag-inous Metaplasia of Vocal Cord Nod-Ann. Otol. Rhinol. Laryngol. 81: 844-847, Dec. 1972.

Fabian, Richard L., SILVERSTEIN, H., et al.: "Penetrating Wounds of the Tympanic Membrane and Ossicular

Chain." Trans. Am. Acad. Ophthalmol. Otol. 77:125-135, May-June 1973. GACEK, Richard R.: "Surgery on 'Only-Hearing' Ears with Chronic Suppurative Middle Ear Disease." Ann. Otol. Rhinol. Laryngol. 82:290-296, May-June 1973.

Gacek, Richard R. (See SCHUKNECHT,

Goodman, Max L. (See BURTNER, D.) GUINAN, John J., Jr., Guinan, S. S., and Norris, B. E.: "Single Auditory Units in the Superior Olivary Complex. I: Responses to Sounds and Classifications Based on Physiological Properties. II: Locations of Unit Categories and Tonotopic Organizations." Int. J. Neuroscience 4:101-120; 147-166,

HOLMES, Edgar M.: "Congenital Malformations of the Ear." Chapter 67 in: *Pediatric Otolaryngology.* Vol. 2 of Disorders of the Respiratory Tract in Children, edited by C. F. Ferguson and E. L. Kendig. Phila., Saunders, 1972.

pp. 851-864

IRWIN, John W.: "Blood Cell Aggregation and Pulmonary Embolism in Oxygen Transport to Tissue." Chapter in: Advances in Experimental Medicine and Biology, Vol. 37-B. New York, Plenum Press, 1973. pp. 637-640. Irwin, John W. (See NIMS, J. C.) JAFFE, Burton F.: "The Bronchial Archs

-Normal Development and Abnormalities." "Neck Masses and Malignant Tumors of the Head and Neck." Chapters 99 and 100 in: Pediatric Otolaryngology. Vol. 2 of Disorders of the Respiratory Tract in Children, edited by C. F. Ferguson and E. L. Kendig. Phila., Saunders, 1972. pp. 1117-1125; 1125-1157.

JAFFE, Burton F. and Jaffe, N.: "Head and Neck Tumors in Children." Pediatrics 51:731-740, April 1973. JAFFE, Burton F.: "Sudden Sensorial

Neural Deafness. Work-Up and Management." Postgrad. Med. 54:95-100,

July 1973. JAFFE, Burton F.: "Unusual Laryngeal Problems in Children." Ann. Ótol. Rhinol, Laryngol. 82:637-642, Sept.-

Oct. 1973. JAFFE, Burton F.: "Clinical Studies in Sudden Deafness." Adv. Otorhinolar-

yngol. 20:221-228, 1973. JAKO, Geza J.: "Laser Surgery of the Vocal Cords. An Experimental Study with Carbon Dioxide Lasers on Dogs. Laryngoscope 82:2204-2216, Dec. 1972. JAKO, Geza J. and STRONG, M. S.:

"Laser Surgery in the Larynix; Early Clinical Experience with Continuous CO₂ Laser." Ann. Otol. Laryngol. Rhinol. 81:791-798, Dec. 1972

JAKO, Geza J., et al.: "Experimental Carbon Dioxide Laser Surgery of the Vocal Cords." Eye Ear Nose Throat Mon. 52:171-172, May 1973.
KIANG, Nelson Y-S. and Moxon, E. C.:

Physiological Considerations in Artificial Stimulation of the Inner Ear. Ann. Otol. Rhinol. Laryngol. 81:714-

730, Oct. 1972

KIMURA, Robert S.: "Cochlear Vascular Lesions." Chapter in: Vascular Disorders and Hearing Defects, edited by A. J. D. de Lorenzo. Baltimore, University Park Press, 1973. pp. 205-218

MacMillan, Alexander S., Jr. and BIRN-HOLZ, J.C.: "Advanced Laryngeal Compression due to Diffusé Symmetric Lipomatosis (Madelung's Disease).

Brit. J. Rad. 46:245-249, Apr. 1973. MILLER, Daniel, WANG, C. C., and Schulz, M. D.: "Combined Radiation Therapy and Surgery for Carcinoma of the Supraglottis and Pyriform Sinus."

Laryngoscope 82:1883-1890, Oct. 1972. MILLER, Daniel: "Does Cryosurgery Have a Place in the Treatment of Papillomata or Carcinoma of the Larynx?" Ann. Otol. Rhinol. Laryngol. 82:656-660, Sept. -Oct. 1973. Miller, Daniel (See MORETTI, J. A.)

MONTGOMERY, William W.: "Facial Fractures Related to the Orbit." Laryngoscope 82:1897-1912, Oct. 1972

Montgomery, William W., OJEMANN, R. G., and Weiss, A. D.: "Evaluation and Surgical Treatment of Acoustic Neurinoma." N. Engl. J. Med. 287:

895-899, Nov. 1972.
MONTGOMERY, William W.: "Surgery for Acoustic Neurinoma." Ann. Otol. Rhinol, Laryngol, 82:428-442, July-Aug. 1973. Álso in: Trans. Am. Otólog. Soc. 61:140-156, April 1973.

MONTGOMERY, William W.: "Posterior and Complete Laryngeal (Glottic) Stenosis." Arch. Otolaryngol. 98:170-175, Sept. 1973.

MONTGOMERY, William W.: "Surgery of the Upper Respiratory System. Vol. 2. Phila., Lea & Febiger, 1973. 607 pp. Montgomery, William W. (See BURTNER,

MOŔETTI, Joseph A. and Miller D.: "Laryngeal Involvement in Benign Symmetric Lipomatosis." Arch. Otolaryngol. 97: 495-496, June 1973.

NAUFAL, Pierre M. and Schuknecht, H. "Vestibular, Facial, and Oculomotor Neuropathy in Diabetes Mellitus." Arch. Otolaryngol. 96:468-474, Nov. 1972.

NAUFAL, Pierre M.: "Primary Sarcomas of the Temporal Bone." Arch. Otolaryn-

gol. 98:44-50, July 1973. NIMS, Judith C. and Irwin, J. W.: "Chamber Techniques to Study the Microcirculation." Microvasc. Res. 5:105-118, Jan. 1973

Reidel, Arthur H. (See SILVERSTEIN, M. D.)

SCHUKNECHT, Harold F.: "Surgical Modalities." Arch. Otolaryngol. 97:129-132, Feb. 1973.

SCHUKNECHT, Harold F.: "Destructive

Labyrinthine Surgery." Arch. Otolaryngol. 97:150-151, Feb. 1973.
SCHUKNECHT, Harold F. and Ruby, R. R.: "Cupulolithiasis." Adv. Otorhinolaryngol. 20:434-443, 1973

SCHUKNECHT, Harold F. and Gacek, R. R.: "Surgery on 'Only-Hearing' Ears." Trans. Am. Acad. Ophthalmol. Otol. 77:257-260, July-Aug. 1973. Schukert, Harden G. (See NAUFAL, P.

M.; YUEN, S.S.)

SILVERSTEIN, Marc D. and Reidel, A. H.: "A DECtape Monitor System for an 8K PDP - 8/E with TD8E DECtape (MOS System)." Decuscope 12:9-13,

No.2, 1973.
WEISS, Alfred D. and Tole, J. R.: "Effect of Galvanic Vestibular Stimulation on Rotation Testing." Adv. Otorhino-laryngol. 19:311-317, 1973.

Weiss, Alfred D. (See Montgomery, W.

WILŚON, William R.: "PO2, PCO2, pH, Lactate, and Pyruvate Levels in Venous Effluent Blood During Construction of Bipedicle Flaps." Surg. Forum 24:496-497, 1973

WILSON, William R. and Toomey, J. M.: "Mass Spectrometric Observations of Skin Flap Physiology." Laryngoscope 83:559-567, April 1973.

YUEN, Sze Sun and Schuknecht, H. F. "Vestibular Aqueduct and Endolymphatic Duct in Meniere's Disease." Arch. Otolaryngol. 96:553-555, Dec. 1972.

Employee Service Award Recipients

Twenty Years of Service Mrs. Joan Perkins Mrs. Barbara Smith, RN

Ten Years of Service
Mrs. Mary Lee Barnes
Mrs. Lola Blanton
Mr. Herbert Kirshnit
Mr. Eddie Lenard
Miss Marion Martin
Mrs. Rose Rich
Mr. Arthur Shorter
Mrs. Ann Steele
Miss Rose Sullivan, RN
Mrs. Roetta Sykes, LPN
Miss Ethel Weich
Mr. Allen Williams

Mrs. Annie Williams

Five Years of Service Mrs. Louise B. Adams Mrs. Angel Andonian Mrs. Pernella Curran Mrs. Mary Demirjian, RN Mr. Earrie Fenderson Miss Martha Fraser Mrs. Sylvia Frazer Mr. Edward Gadowski Mr. Eddie Gadson, Jr. Miss Patricia Geary Mrs. Hyacinth Gillispie Mrs. Jeanne Hammond Mrs. Margaret Heasley Mr. Robert A. Hock Mrs. Virginia Holley Mrs. Janie Howard Mrs. Marlene Kilroy, LPN Miss Louise Lusby Mr. John McElroy

Mrs. Audrey Melanson
Mrs. Kristina Nicklas, LPN
Mrs. Anne O'Hanley, RN
Miss Hope Onessimo, RN
Mrs. Marjorie Patriquin, LPN
Mrs. Mary Perez, RN
Mrs. Constance Quilter
Mrs. Elizabeth Reggio
Mr. Arthur Reidel
Mrs. Mildred Ryles
Mrs. Mary Sangiolo
Miss Carol Scanlon, LPN
Miss Jane Taub, RN
Mrs. Anne C. Volk
Miss Dorothy Weller

Volunteer Service Award Recipients

Honor Roll

Mrs. Mark W. Adair Mrs. Edwin J. Carr Miss Leah Cook Mrs. Ernest DiLorenzo Mrs. Charles M. Harsh Mrs. Charles J. Innes Miss Grace Kalalian Mrs. Edith L. Lewis Mrs. John Lowell Miss Nancy Okamura Mrs. Milton Rosenthal Miss Sheila Scanlon Mrs. Vincent Scanlon Miss Ruth Shapiro Mrs. Mildred F. Sullivan Mrs. Kathryn Van Dernet

Over One Hundred Hours of Service

Miss Lydia Weare

Mrs. Henry F. Allen
Mrs. Peter G. Antonioli
Miss Frances Benedict
Miss Mary Budarz
Mrs. Colin McA. Cunningham
Miss Constance E. Hughes
Mrs. Robert C. Meisel
Miss Gale Parker
Mr. Clifford C. Podewell
Miss E. Florence Reid
Mrs. Phillips H. Roland, II
Mr. Barry Sall
Miss Ethanne Smith

FORM OF BEQUEST

Mrs. James I. Summers

Miss Cheryl L. Zabilski

Massachusetts Eye and Ear Infirmary 243 Charles Street Boston, Massachusetts 02114



MASSACHUSETTS
MASSACHUSETTS
EYE & EAR
EYE RIVARY ANTUAL REPORT



(left) Skilled surgeons repair retina in delicate procedure.

(bottom) The surgical team efficiently prepares the patient for the upside-down phase of procedure to repair major damage to the retina.

(right) More than 100,000 clinic patients each year turn to the Infirmary for the answer to their particular medical problem.



YEAR of transition poses its own kinds of challenges and opportunities, and carries its own special burden. It is by its nature a period of change and the stresses that change implies. It bears the weight of the past as it links up with the future.

It is one of the best times to measure any organization.

Nineteen seventy four was the first half of a two-year transition period for the Infirmary. As we entered our 150th anniversary, we were halfway through our first major construction effort in the 20th century. Phase I—the first two-thirds of our building program—was complete and we were spending our first year in our new home. Phase II had begun, and by year's end the skeletal steel of the second section of our building was rising up next to the first. Next year, at last, the other shoe will drop.

As we pass the halfway mark, it's well to remind ourselves of the nature of this giant step we are taking. The hospital we are building is literally unique: it is the only one of its kind in the world. Straddling our earlier building—completed in 1899—it rises 15 stories and includes the most modern medical facilities and patient areas that hospital designers have been able to develop. Around a central core of operating rooms and related areas, radiology facilities, and building services are patient floors and administrative space whose flexibility of

design allows growth and adjustment to the varying needs of the hospital. Administrative areas can become patient areas—all the needed services are built in. Private rooms can be rapidly and efficiently converted to semiprivate rooms, and vice versa. There is room for both expansion and contraction.

This hospital is being built to fit its needs, however they may change in the future.

In 1973, we took the first welcome step outside of our outmoded, overcrowded, 75-year-old building into Phase I of our new home, and we have spent our first year getting used to it, breaking it in. It was a little stiff at first, but by year's end we had solved most of our major problems.

There is still a "temporary" feel to it. Our lobby and elevators are make-do affairs at best; corridors end abruptly in blank walls that will be torn down when we break through into the completed Phase II; some areas are cramped for space. But this will all change around the time of our next Annual Report. We will have a large and pleasant new entrance; nine elevators where we now have three; corridors will behave sensibly: there will be well-planned room for all. The second half of this transition period should go faster, too. It is like the last half of winter; just as much time spent as in the first half, but the days are getting longer instead of shorter and spring is at the other end. Momentum gathers and dispositions improve.



Considering the readjustments while we were getting used to our new building, 1974 was a relatively smooth year with fewer and fewer growing pains as time went on. In the area of medical research, so much a part of the Infirmary's tradition of excellence, two major laboratories began operation in the new building, one an old friend and the other a more recent one.

The Eaton-Peabody Laboratory of Auditory Physiology returned to the new facilities specially designed for it on our fourth floor, and the Berman-Gund Laboratory for the Study of Retinal Degenerations opened with a widely publicized dedication in the fall.

Another new step during the year was the establishment of a new otolaryngological unit, the ENT Allergy Service, to deal with nonsurgical aspects of disorders of the ear, nose and throat.

Bed utilization, total patient days, and the average number of patients in the hospital were all higher in 1974 than in 1973, and the average length of stay was held to a very respectable 5.1 days.

Despite these heartening statistics, the end of our year began to see some effects of the economic recession. In specialty hospitals such as ours, a large percentage of patient care involves elective surgery; growing unemployment and uncertain job security are among the economic factors that tend to lead people to put off such surgery. Until some form of national health insurance comes into being, hospitals, and most especially our kind of hospital, are going to be indirectly affected by economic shifts. Fortunately, our hospital is designed in such a way that we can react quickly and efficiently and minimize the impact.

The Infirmary is, of course, far more than a building. Its lifeblood is its people, some of whom you will see in this report, and rarely can one find a more talented and dedicated group than our medical, administrative, and service people. Because of them, a patient who comes to the Infirmary will benefit from as high a standard of health care as in any institution in the world. They have made our hospital a vital and respected resource in a community internationally known for its health facilities.

Because of our employees, a world-renowned medical staff, a farsighted board of trustees, and a 150-year-old tradition of excellence in patient care, medical research, and education, the Infirmary is measuring well during the transition and it is, for us, a very happy birthday.

Charles Wood

Charles T. Wood

(bottom) A little girl has an ear dressing changed in the examining room off the Children's Wing.

(right) In response to tone from Audiologist, young child reacts to highly specialized hearing test.







N this our Sesquicentennial, Massachusetts Eye and Ear Infirmary continues to grow. The delivery of the best health care and the persistent efforts to provide the best in teaching and research are the goals of our hospital. These are difficult and changing times for the health care field but we believe we are alert to the problems.

Our great contribution to the field of medicine in our specialties over the past one hundred and fifty years is well recognized. It has been made possible in large part by the dedication of an outstanding, devoted hospital staff and administration. Each member of this family, whatever his or her position, has significance in this accomplishment. We are deeply and humbly grateful to you all—for the years of eminent practice and service, for the long hours of sacrifice and devotion to the Infirmary's patients, and for

your unswerving loyalty to the Infirmary and constant dedication to its ideals.

But we could not have done it alone. We would not have been able to sustain the excellence in patient care for which we are noted worldwide without the generosity of our benefactors, from the beginning to the present. This we acknowledge with continuing gratitude. Finally, our warmest thanks go to all the contributors to our Building Fund. Because of your support and belief in the work and success of the Massachusetts Eye and Ear Infirmary, we will complete the construction of a modern hospital in the Spring of 1976.

Melville Olaphi William H. Clafler S



Melville Chapin, Chairman



William H. Claflin III, President

- (top) Sophisticated bedside electronic consoles put many conveniences within the patient's reach.
- (left) The utmost in design geared toward the practice of Ophthalmology and Otolaryngology, as well as patient convenience and comfort: the Infirmary's patient room.
- (right) Medication and a change of bandages done by nurses who have all had postgraduate specialty training at the Infirmary.

Ophthalmology

UCH of the Infirmary's clinical service for the eye has moved into the new building. The Cornea Service has been in its new quarters for a year, and early in 1975 a new General Eye Clinic opened. The old General Eye Clinic area will be rebuilt to house the Glaucoma Service and a new Pediatric Service.

In the fall of 1974 the Berman-Gund Laboratory for the Study of Retinal Degenerations was opened. The Laboratory brings together scientists trained in several disciplines to study the causes of retinitis pigmentosa and other degenerative diseases of the retina, and is the only one of its kind in the world. In general, funding of eye research took a sharp upswing during the year, including the award of a five-year \$630,000 training grant.

Also during the year, the Ophthalmology Department established a relationship with the Hebrew Rehabilitation Center for the Aged in Roslindale for full general eye service.

Otolaryngology

HE principal clinical advance during the year was the establishment of a Medical Otolaryngology Unit to deal with nonsurgical aspects on treating disorders of the ear, nose, and throat, especially food and inhalant allergies, immune disorders, and life threatening infections.

The Eaton-Peabody Laboratory of Auditory Physiology, which had been relocated from the Infirmary to Massachusetts Institute of Technology during the first phase of our construction,

returned to specially designed quarters in our new building during the year. The Laboratory's presence in the Infirmary makes it possible for its research scientists to work closely with our clinical staff.

Also in 1974, our Otolaryngology service established a clinical affiliation with the Eunice Kennedy Shriver Hospital in Waltham, principally to provide patient service for patients with ear disorders.

Anesthesia

HE Infirmary's Anesthesia Department increased its weekday services to surgeons and extended Recovery Room coverage. Members of the Anesthesia staff organized a cardiopulmonary resuscitation program to train all hospital personnel in emergency life support measures.

Audiology

HE Audiology Department offered clinical service to more than 9,000 patients during the year. In addition, members of the Audiology staff gave instruction to medical students, residents, and graduate students in audiology.

Clinical Laboratories

T was the first year of operations for the new William F. Coolidge Clinical Laboratories, the Porter Bacteriology Laboratory, and the Mosher Pathological Laboratory. There were more than 66,500 examinations in the Clinical Laboratories, 11,700 cultures studied in Bacteriology, and 3,100 specimens exam-







ined in Pathology. In addition, microbiologists studied hundreds of cultures as part of the continuing environmental control survey within the Infirmary in such areas as the operating rooms and dietary facilities.

Nursing

O provide a more comprehensive picture of the patient's hospitalization, nursing observations and initiatives are now being communicated in the body of the patient's record, using an integrated progress sheet. This also provides the medical staff with easier access to current nursing information.

In the Children's Unit parents are encouraged to visit at any hour and to participate in the care of their child. The Infirmary is just beginning its expansion to family-centered pediatric care, and the facility in Phase II will more easily lend itself to parent participation.

Outpatient Department

HE Infirmary's Outpatient Department continued its community outreach program in the North End Community
Health Center and generally extended its community screening programs. The census in the specialty clinics has continued to increase.

A new preregistration procedure for ambulatory surgery patients considerably reduced waiting time.

Radiology

HE Radiology Department is well equipped to handle specialized x-ray requests, and there was a considerable increase in 1974 in polytome studies (cross-section views), fluoroscopy, sialograms (salivary-gland studies), and laryngograms for both inpatients and outpatients.

Social Service

ORE than 2,600 Infirmary patients received service from the Social Service Department during 1974. In addition to counselling patients, the department participates in community activities and runs educational meetings for patients, employees and student nurses.



(above) The Infirmary's Recovery Room functions as Intensive Care Unit and runs round the clock. Staffed by competent nurses and equipped with the foremost medical instrumentation, it provides the best quality care available.

(bottom right) Supergraphics brighten the Infirmary and ease the way for patients and visitors with limited vision.

(top right) Phase II construction began with the demolition of the Fruit St./Charles St. corner of Infirmary's old 1899 building on September 4, 1973.

(far right) Phase II reaches skyward during the Winter, 1974–1975.

Infirmary opened in 1824 when two young eye surgeons started a free clinic in Boston's old Scollay Square. Soon, patients with ear problems also began coming to the clinic. By the turn of the century, the clinic had become a major medical center and hospital, playing a growing role in development of medical specialties dealing with disorders of the eye, ear, nose, and throat, and becoming the official teaching hospital for training Harvard Medical School students in those disciplines.

In the early 1900's the hospital continued to develop innovations in patient care, such as the first isolation accommodations to stop infection from passing from patient to patient; a social service to educate, rehabilitate, and help patients generally with problems of living with eye, ear, nose, and throat disorders; and the first significant research in the modern sense into the causes of eye and ear disorders.

Today, the Infirmary is known worldwide for its accomplishments in its specialties. Emergency patients are referred routinely from hospitals throughout New England, clinic patients often travel from distant parts of the U.S., and inpatients come from many countries. The hospital's commitment to research is strengthened through its associations with Harvard Medical School and various government health agencies. Investigations now focus on complex aspects of vision, hearing, and speech, and require the collaboration of specialists in basic sciences and the use of the most advanced technological tools.



Now housed in a new building constructed over and around its earlier, 19th-century quarters, the Infirmary cares for 12,000 patients each year in what is basically a 170-bed hospital. The bed capacity is a model of flexibility; every room can be converted from single to double occupancy and each floor features a cluster of rooms that can function as isolation units, intensive care units, or rooming-in suites. Eleven new operating rooms and adjacent recovery areas are fitted with the most modern equipment, life-support apparatus, and infection-prevention systems.





TRUSTEES

1925 Hon. Leverett Saltonstall

1934 Robert F. Bradford

1935 William A. Parker

1940 Mrs. Richard Cary Curtis

1940 Horace W. Frost

1943 Frederick Winthrop-honorary

1945 Mrs. Sullivan A. Sargent

1947 William H. Chaflin, III

1948 August R. Meyer

1948 Miss Amelia Peabody

1951 Francis W. Hatch, Jr.

1951 George L. Pew

1951 Howland S. Warren

1951 Melville Chapin

1951 Henry K. Porter

1952 George A. McLaughlin

1953 Mrs. Varaztad H. Kazanjian

1955 Richard P. Chapman

1955 William Ehrlich

1955 Weston Howland, Jr.



1957 William L. Saltonstall

1963 Thomas B. Frost

1963 John S. Howe

1963 Frederick H. Lovejoy

1963 Thomas Allsop¹

1965 George M. Lovejoy, Jr.

1965 Mrs. John Lowell

1965 Frederick C. Rozelle, Jr.

1966 Francis S. Hill

1966 Robert Bacon

1966 James I. Summers

1966 Leo F. Daley

1967 Paul A. Chandler, M.D.

1967 Edwin B. Dunphy, M.D.

1967 Mrs. Bartlett Harwood

1967 Henry G. Lapham²

1967 John M. Lord

1967 LeRoy A. Schall, M.D.

1967 William F. Spang

1967 Monte J. Wallace

1968 Colin McA. Cunningham

1968 W. Clement Stone-honorary

1969 Richard W. Young, Ph.D.

1970 Ephron Catlin

1970 Mrs. Frederick S. Moseley

1970 Mrs. Frederick R. H. Witherby

1971 Avram J. Goldberg

1971 Frank L. Harrington, Jr.

1971 Robert C. Jordan

1971 Mrs. Robert C. Meisel

1971 Robert D. Williams

1972 Matthew J. Burns

1972 Leo H. Daley

1972 Mrs. William B. Ellison

1972 John U. Harris³

1972 Richard Harte

1973 Dominic Di Maggio

1973 J. Frank Gerrity

1973 Robert T. P. Storer, Jr.

1973 Frederick G. P. Thorne

1974 Bruce A. Beal

¹resigned, September 24, 1974 ²resigned, September 24, 1974 ³resigned, November 26, 1974

Unrestricted visiting by parents in the Children's Wing affords comfort to

youngsters and parents.

BOARD OF MANAGERS

Melville Chapin, Chairman William H. Claflin, III, President George M. Lovejoy, Jr., Vice-President Ephron Catlin, Treasurer Mrs. John Lowell, Secretary

Very Reverend Edward J. Carney, O.S. A.**

Mrs. Richard Cary Curtis Ephraim Friedman, M.D.* Avram Goldberg

George A. McLaughlin Mrs. Robert C. Meisel August R. Meyer

William A. Parker Henry K. Porter

Gustave M. Solomons**
James I. Summers

ADMINISTRATION

Director

Charles T. Wood

Administrative Assistant Mary Louise Davis

Associate Director for Clinical Services James R. Hamill

Associate Director for Hospital Services Raymond W. Lyons

Associate Director for Administrative Services
Anthony P. Reis

DEPARTMENTS AND SERVICES

Building Services
John Douglas, Director

Medical Records
Barbara Houtman, Director

Development Frederick Picard, III

Dietary Services Herbert Kirshnit, Director

Maintenance Services Robert Marshall, Director

(All appointments designated through December 31, 1974)

* resigned

**appointed by the Commonwealth

Concerned friends of the Infirmary have helped strengthen its stance in the community through the years.

Nursing Services

Barbara E. Corey, R.N., Director Ruth J. Straitiff, Administrative Assistant

Operating Rooms

Katherine Taft, R.N., Director

Out Patient Department

Edward J. Stockman, Jr., Administrator Carol Stearns, Chief OPD Admitting Officer

Patient Services

Margarete L. Arndt, Director Ruth Dorfman, R.N., Chief Admitting Officer

Rose Rich, Chief Scheduling Officer

Personnel and Public Relations
J. Antony Lloyd, Director
Denise Sullivan, Public Relations
Assistant

Purchasing and Stores Lehan Power, Director

Social Services Madeline Shipsey, Director

Volunteer Service Rosanne Ring, Director



Executive Committee

Mrs. John Lowell

Chairman

Mrs. James I. Summers

First Vice Chairman

Mrs. Robert F. Kurtz Second Vice Chairman

Mrs. Harold F. Schuknecht

Treasurer

Mrs. John B. Eliot Recording Secretary

Mrs. Calvin A. King Corresponding Secretary

Mrs. James M. Hardy Chairman Distaffers

Mrs. Henry F. Allen Mrs. Malcolm B. Carslev

Mrs. Edgar H. Kent Mrs. Henry Lyman, Jr.

Mrs. Robert C. Meisel Immediate Past Chairman

Mrs. Ichiro D. Okamura

Members

Mrs. Henry F. Allen

Mrs. Manning Barry Mrs. Maurice Berlin

Mrs. Yale Berry

Mrs. C. J. Boulris

Mrs. Harry E. Braconier

Mrs. Edwin J. Carr

Mrs. Walter J. E. Carroll Mrs. Malcolm Carsley

Mrs. Frederick Casey

Mrs. Thomas Cavanaugh

Mrs. Paul A. Chandler Mrs. Richard B. Chapman

Mrs. Julian F. Chisholm, Jr.

Mrs. Nathaniel D. Clapp

Mrs. David G. Cogan Mrs. Thomas P. Cronin

Mrs. Colin McA. Cunningham

Miss Winifred Cunningham

Mrs. Richard C. Curtis Mrs. Leo F. Dalev

Mrs. Richard Dallow

Mrs. Benjamin C. Davis

Mrs. Livingston Davis Mrs. Claes H. Dohlman

Mrs. David D. Donaldson Mrs. Weld Douglass

Mrs. Edgar Driscoll, Jr. Mrs. Edwin B. Dunphy

Mrs. Howard M. Ecker

Mrs. John B. Eliot

Mrs. William Ellison

Mrs. Maxwell Fish

Mrs. Albert R. Frederick, Jr.

Mrs. Richard R. Gacek

Mrs. Harold S. Geneen Mrs. Avram J. Goldberg

Mrs. Robert L. Goodale

Mrs. Max Goodman

Mrs. W. Morton Grant Mrs. Trygve Gundersen

Mrs. Frank L. Harrington, Jr.

Mrs. Charles M. Harsh

Mrs. Bartlett Harwood

Mrs. William L. Hayden Mrs. Ralph Hinckley

Mrs. Valentine Hollingsworth

Mrs. Edgar M. Holmes

Mrs. Alfred L. Hurst Mrs. J. Carter Inches

Mrs. Charles J. Innes Mrs. Carl C. Johnson

Mrs. Roy A. Johnson

Mrs. Robert C. Jordan Mrs. Varaztad H. Kazanjian*

Mrs. Victor H. Kazanjian

Mrs. Edgar H. Kent Mrs. Calvin A. King

Mrs. Thomas R. Klein

Mrs. Robert E. Klotz Mrs. Clarence E. Knapp

Mrs. Arnold J. Kroll Mrs. Robert F. Kurtz

Mrs. Clarence E. Kylander

Mrs. Charles A. Lane Mrs. Robert H. Lofgren

Mrs. John Lowell

Mrs. Henry Lyman, Jr.

Mrs. Alexander S. Macmillan

Mrs. Alexander S. Macmillan, Jr.

Mrs. David B. McClusky Mrs. J. Wallace McMeel

Mrs. Robert C. Meisel

Mrs. Henry D. Minot Mrs. G. Gardner Monks

Mrs. Frederick S. Moseley, III

Mrs. Henry P. Mosher

Mrs. Stephen P. Mugar

Mrs. Ichiro D. Okamura Mrs. George M. Olive, Jr.

Mrs. Irving L. Pavlo Mrs. Grafton Perkins

Mrs. Silvio Pirquet

Mrs. Henri Prunaret Miss Mary A. Redman

Mrs. Franklin Reece Mrs. Charles D. J. Regan

Mrs. John B. Richardson*

Mrs. Karl Riemer

Mrs. Phillips H. Roland, II Mrs. Aram Roopenian

Mrs. Milton Rosenthal Mrs. Perry Rosenthal

Mrs. Baruch Sachs

Mrs. Benjamin Sachs Mrs. William L. Saltonstall

Mrs. Ernest J. Sargeant Mrs. Sullivan A. Sargent, Jr.*

Mrs. Richard E. Savory

Mrs. Charles L. Schepens Mrs. Harold F. Schuknecht

Mrs. Alfred W. Scott Mrs. David H. Scott

Mrs. Henry R. Scott Mrs. Earl S. Seale

Mrs. Samuel Simons

Mrs. William S. Slade, Jr.* Mrs. Albert E. Sloane

Mrs. Reginald H. Smith

Mrs. Taylor R. Smith

Mrs. Gustave M. Solomons

Mrs. George E. Stephenson

Mrs. James I. Summers

Mrs. William L. Taggert

Mrs. Thomas C. Thacher Mrs. John E. Thayer

Mrs. Frederick G. P. Thorne

Mrs. Robert Truesdale Miss Lydia Weare

Mrs. Donald R. Weis Mrs. Lyon Weyburn

Mrs. Roy R. Wheeler Mrs. Henry E. Wile

Mrs. Robert D. Williams

Mrs. Andrew N. Winslow, Jr. Mrs. Frederick R. W. Witherby

Mrs. Stewart C. Woodworth

Honorary Members

Mrs. Loretta McLaughlin

Mrs. John Ring

Mrs. Henry Peabody*

Mrs. Ely A. Kirschner

Associate Members

Mrs. Richard P. Breed, Jr.

Mr. & Mrs. Elliot W. Brown Mrs. Mortimer L. Cashman

Mr. & Mrs. Winthrop B. Coffin

Mrs. Adrian J. Costanza

Mrs. David W. Donahue Mrs. Thomas J. Drake

Mrs. William Endicott, II Mrs. James P. Fenn

Mrs. Harold E. Fitzgibbons

Mrs. Warren D. Haley Mrs. John R. Haug

Mrs. E. Miles Herter

Mrs. J. J. Hindon Hyde Mrs. Erick Kauders

Mrs. Leonard B. Kilgore Mrs. Thomas H. Lanman

Mrs. John C. G. Loring

Mrs. Malcolm H. Masters Mrs. Joseph T. McGrath

Mrs. Edward C. Meyer

Mrs. Lawrence Meyns, Jr. Mrs. George R. Minot

Mrs. John S. Morgan Mrs. Charles F. Nayor

Mrs. Richard C. Norton

Mrs. Joseph F. O'Connell Mrs. Emerson T. Oliver

Mrs. Winthrop E. Sears Mrs. Philip Shea

Mr. & Mrs. Andre R. Sigourney

Mrs. C. Fred Smith, Jr. Mrs. Gerard B. Townsend Mrs. Lewis L. Wadsworth

Mr. & Mrs. Thomas J. Walsh Miss Agnes Wheeler

Mrs. Evelyn G. Whiton Mrs. Royal C. Wilson

*Past Chairman, LVC

Mrs. George Wyshak

COMMITTEES

EXECUTIVE

William H. Claflin, III, Chairman

Ephron Catlin

Melville Chapin

Claes H. Dohlman, M.D.

Thomas R. Klein, M.D.

Frederick H. Lovejoy

George M. Lovejoy, Jr.

Mrs. John Lowell

George A. McLaughlin

Mrs. Robert C. Meisel

Harold F. Schuknecht, M.D.

Porter H. Smith, M.D.

Charles T. Wood, Secretary

FINANCE

Ephron Catlin Melville Chapin

William H. Claflin, III

BUILDING

William H. Claflin, III, Chairman

Ephron Catlin Melville Chapin

Frederick H. Lovejoy

George M. Lovejoy, Jr.

Mrs. John Lowell

George A. McLaughlin Mrs. Robert C. Meisel

Charles D. J. Regan, M.D.

Harold F. Schuknecht, M.D.

Charles T. Wood, Secretary

RESEARCH

Richard W. Young, Ph.D., Chairman

Adelbert Ames, III, M.D.

John E. Dowling, M.D.

Ephraim Friedman, M.D.*

Ralph G. Meader, Ph.D.

Charles T. Wood, Executive Secretary *Resigned

HUMAN STUDIES

Robert Williams, Chairman

Max L. Goodman, M.D.

W. Morton Grant, M.D. Robert S. Kimura, B.A.

Ralph G. Meader, Ph.D.

Charles D. J. Regan, M.D.

Harold F. Schuknecht, M.D. Richard A. P. Thoft, M.D.

Charles T. Wood

Mary Louise Davis, Secretary

LIBRARY

John W. Irwin, M.D., Chairman

Henry F. Allen, M.D.

Harold Bloomquist

Douglas Bryant

Richard L. Dallow, M.D.

Claes H. Dohlman, M.D.

Edwin B. Dunphy, M.D. Richard R. Gacek, M.D.

B. Thomas Hutchinson, M.D.

Robert S. Kimura, B.A.

Moses H. Lurie, M.D.

Thomas J. Mulvaney, M.D.

Abraham Pollen, M.D. Charles D. J. Regan, M.D.

Harold F. Schuknecht, M.D.

Richard A. P. Thoft, M.D.

Charles T. Wood

Charles Snyder, Secretary and Librarian

ARCHIVES

Moses H. Lurie, M.D.

Charles Snyder, Archivist Francis J. West, M.D.

Charles T. Wood

SALARY

Ephron Catlin

Melville Chapin

William H. Claflin, III

Charles T. Wood

PERSONNEL AND PENSION

Henry K. Porter, Chairman

Melville Chapin

J. Antony Lloyd

Raymond W. Lyons

George A. McLaughlin

Charles T. Wood

SOCIAL SERVICE ADVISORY

Henry K. Porter, Chairman

Barbara E. Corey, R.N.

Mrs. Barbara J. Dawson

Ruth Farrisey, R.N.

Gault M. Farrell, M.D.

James R. Hamill

Mrs. Edgar Kent

Mrs. John Lowell

Moses H. Lurie, M.D.

Henry A. Mosher, M.D.

Thomas J. Mulvaney, M.D.

Miss Kathleen O'Donoghue Charles D. J. Regan, M.D.

Madeline S. Shipsey

Richard S. Thompson, Ph.D.

Alfred D. Weiss, M.D.

Charles T. Wood

ACCREDITATION

Charles T. Wood, Chairman

Margarete L. Arndt

Barbara E. Corey, R.N.

Mary Louise Davis

Max L. Goodman, M.D.

Joyce Gormley James R. Hamill

Francis S. Hill

Barbara Houtman

Herbert Kirshnit Thomas R. Klein, M.D., ex officio

Raymond W. Lyons

August Meyer

Harold F. Schuknecht, M.D.

Madeline Shipsey

Porter H. Smith, M.D.

Taylor Smith, M.D.

Charles Snyder

Alfred L. Weber, M.D.

John Webb

Alfred D. Weiss, M.D.

ANIMAL FARM

John W. Irwin, M.D., Chairman

Alan Bachrach, Jr., V.M.D.

Claes H. Dohlman, M.D.

Cecil Drinker

Raymond W. Lyons, Secretary

Edgar B. Taft, M.D.



Time and time again comfort for those in need.



Fiscal 1973–1974		1974	1973
Inpatient Hospital (170 Beds)	Admissions: Eye Patients	6,733	6,331
	E.N.T. Patients	4,088	4,187
	Total Admissions	10,821	10,518
	Operations: By Eye House Staff By Eye Attending Staff Total Eye Operations By E.N.T. House Staff	1,299 5,519 6,818 1,250	1,089 5,319 6,408 1,091
	By E.N.T. Attending Staff	2,524	2,619
	Total E.N.T. Operations Total Operations	3,774 10,592	3,710 10,118
	Discharges:	10,809	10,481
	Death Autopsies PATIENT DAYS AVERAGE PATIENT CENSUS	17 27% 55,242 151	12 42% 53,480 146
	AVERAGE LENGTH OF STAY	5.11	5.10
	BED UTILIZATION Total Discharges	89 % 10,809	85% 10,481
Outpatient Department	Eye Clinic	10,009	10,701
Outpatient Department	Total Eye Visits E.N.T. Clinic	60,806	63,168
	Total E.N.T. Visits	22,743	23,865
	Total O.P.D. Visits	83,549	87,033
Emergency Ward	Eye Cases E.N.T. Cases	17,612 13,984	16,855 14,375
	Total	31,596	31,230
Minor Surgery	Eye Cases E.N.T. Cases	2,131 1,324	1,760 1,179
	Total	3,455	2,939
Special Services	Audiology Cases Electroretinography Cases Fluorescein Angiography Cases Otoneurology Cases	9,334 445 1,905 742	8,965 382 1,430 692
	Ultrasonography Cases Visual Function Studies Radiology Department	657 290 21,554	231 - 0 - 18,173
	Laboratories: Eye Pathology (total specimens) E.N.T. Pathology (total specimens)	1,307 3,180 66,532	1,211 4,277 60,505
	Clinical Laboratory (total procedures) Bacteriology (total cultures)	10,683	11,716

Before and after surgery up to ones are entertained by

FINANCIAL STATEMENT MASSACHUSETTS EYE AND EAR INFIRMARY

Balance Sheet

Unrestricted Funds September 30, 1974

Current Assets Cash Accounts Receivable Less allowance for doubtful receivables	\$ 3,371,966 508,814	\$ 393,820 2,863,152	Current Liabilities Current installments of long-term debt Accounts payable Reserves for contractual		\$ 213,554 1,210,242
Investments, at cost (quoted market value \$965,700) Inventories—at average cost Prepaid expenses Deferred pension costs—		1,122,483 82,603 67,867 9,018	adjustments, unemployment compensation and other contingencies Accrued expenses Due to restricted funds Total current liabilities		84,773 216,964 546,201 2,271,734
current Estimated Contractual Adjustment Total current assets		9,018 104,859 4,643,802	Long-Term Debt, less current maturity Equity in undistributed security pool gains		9,621,775
Other Assets Property, plant and equipment Less accumulated depreciation Total unrestricted funds	26,779,672 3,900,077	22,879,595 \$27,523,397	Fund Balances General Operating fund Depreciation fund— unrestricted Plant Total unrestricted funds	\$ 2,159,038 567,702 13,044,266	15,771,006 \$27,523,397

Statement of Revenue and Expenses

September 30, 1974

Patient Service Revenue		\$13,786,026
Adjustment to Patient Revenue for uncollectible accounts, free care and contractual allowances		305,072
Net Revenue Service to Patients Other Operating Revenue (including \$2,350,159 from Research		13,480,954
and Other Specific Purpose Funds)		2,766,156
Total Operating Revenue		16,247,110
Operating Expenses:	¢14 300 154	
Patient Services (including depreciation)	\$14,290,154	16 640 212
Research and Other Specific Purpose Direct Expense	2,350,159	16,640,313
Hospital Operating Loss		393,203
Donated Income		
Various Estates		27,595
Hospital Net Loss from Operations		\$ 365,608

The above financial statements have been abstracted from the Auditor's Report of Alexander Grant & Company, which is on file and available for inspection by interested parties.

Specific Purpose Funds Cash Due from unrestricted fund Investments, at cost (quoted market value \$1,196,100)	\$1,319,893 601,910 1,323,911	Equity in undistributed security pool gains Account Payable Fund balances Special purpose Temporary Unexpended restricted income Depreciation—restricted	\$ 3,889 450 1,138,154 801,627 627,737 673,857
	\$3,245,714		\$3,245,714
Building Fund Cash Certificate of Deposit Construction in progress	\$ 156,050 1,300,000 3,910,334 \$5,366,384	Mortgage Payable to banks—secured Note payable to bank, unsecured Accounts payable Due to unrestricted fund Accrued interest Fund balance	2,050,005 1,250,000 243,354 55,709 28,215 3,627,283 1,739,101 \$5,366,384
Endowment Funds Cash Investments, at cost (quoted market value \$7,326,254)	\$ 649,784 8,430,496 \$9,080,280	Equity in undistributed security pool gains Fund balances Income restricted Income unrestricted	\$3,971,919 1,641,687 3,466,674 \$9,080,280

Summary of Non-Operating Income	Total Investment Income	\$577,904
September 30, 1974	Gifts and Bequests	149,866
	Total	\$727,770

MEDICAL STAFF

(All listings are as of December 31, 1974)

OPHTHALMOLOGY

Active Staff

Chief of Ophthalmology Claes H. Dohlman, M.D.

Assistant Chief of Ophthalmology In charge of Clinical Services Charles D. J. Regan, M.D.

Acting Associate Chief of Ophthalmology

In charge of Education
B. Thomas Hutchinson, M.D.

Surgeons in Ophthalmology
S. Arthur Boruchoff, M.D.
Claes H. Dohlman, M.D.
W. Morton Grant, M.D.
Charles D. J. Regan, M.D.
Karl Riemer, M.D.
Alfred W. Scott, M.D.
David H. Scott, M.D.

Taylor R. Smith, M.D.

Associate Surgeons in Ophthalmology
Robert J. Brockhurst, M.D.
Richard B. Chapman, M.D.
Thomas P. Cronin, M.D.
David D. Donaldson, M.D.
Carl G. Freese, M.D.
John R. Gehring, M.D.
Warren D. Haley, M.D.
B. Thomas Hutchinson, M.D.
B. Thomas Hutchinson, M.D.
J. Wallace McMeel, M.D.
J. Wallace McMeel, M.D.
lchiro D. Okamura, M.D.

George M. Olive, M.D. Irving L. Pavlo, M.D. Baruch J. Sachs, M.D. Richard J. Simmons, M.D.

Assistant Surgeons in Ophthalmology Lloyd M. Aiello, M.D. Eliot L. Berson, M.D. Charles K. Beyer, M.D. John M. Carroll, M.D. Eugene C. Ciccarelli, M.D. Albert R. Frederick, Jr., M.D. H. MacKenzie Freeman, M.D. Stephen J. Fricker, M.D. George E. Garcia, M.D. Ralph H. Hinckley, M.D. Roland E. Houle, M.D. Joseph C. Kim, M.D. Robert C. Lawlor, M.D.

Eeva-Liisa Martola, M.D.

David Miller, M.D.

Robert A. Petersen, M.D. Silvio R. Pirquet, M.D. Ronald C. Pruett, M.D. Richard M. Robb, M.D. Perry Rosenthal, M.D. John G. Sebestyen, M.D. Harvey H. Słansky, M.D. Richard A. P. Thoft, M.D. David S. Walton, M.D. Donald R. Weis, M.D. Michael Wiedman, M.D.

Assistants in Ophthalmology Robert A. Bellows, M.D. Don Carl Bienfang, M.D. Chester J. Boulris, M.D. David G. Campbell, M.D. Leo T. Chylack, M.D. lan J. Constable, M.D. Richard L. Dallow, M.D. Gault M. Farrell, M.D. Elliot M. Finkelstein, M.D. Richard P. Floyd, M.D. Alexander R. Gaudio, M.D. Robert A. Gorn, M.D. David S. Greenseid, M.D. Arthur S. Grove, M.D. David A. Hill, M.D. Tatsuo Hirose, M.D. Eric H. Johnson, M.D. Jay H. Kaufman, M.D. Robert S. L. Kinder, M.D. Mohandas M. Kini, M.D. Joel Arthur Kraut, M.D. Arnold J. Kroll, M.D. Brent W. Lambert, M.D. Deborah Pavan-Langston, M.D. Ernst J. Meyer, M.D. Joseph Michon, M.D. Peter B. Mooney, M.D. Edward Murphy, Jr., M.D. Roger V. Ohanesian, M.D. Donald W. Putnoi, M.D. Gerald D. Rogell, M.D. Kenneth A. Stampfer, M.D. Felipe I. Tolentino, M.D. Clement Trempe, M.D. George A. Violin, M.D. Shirley H. Wray, M.D.³

*Neuro-ophthalmology

Consulting Chiefs of Ophthalmology Henry F. Allen, M.D. David G. Cogan, M.D. Paul A. Chandler, M.D. Edwin B. Dunphy, M.D. Senior Consulting Surgeons in Ophthalmology D. Robert Alpert, M.D. William P. Beetham, M.D. Harry E. Braconier, M.D. Virgil G. Casten, M.D. Joseph M. Clough, M.D. Mahlon T. Easton, M.D. Trygve Gunderson, M.D. Carl C. Johnson, M.D. Brendan D. Leahey, M.D. Sumner D. Liebman, M.D. Henry A. Mosher, M.D. Abraham Pollen, M.D. Charles L. Schepens, M.D. Earl S. Seale, M.D. Albert E. Sloane, M.D. Garrett L. Sullivan, M.D. Francis J. West, M.D.

Senior Consulting Ophthalmic Pathologist Parker Heath, M.D.

HONORARY STAFF

Associate Surgeons in Ophthalmology Frederick B. Breed, M.D. John M. Hill, M.D. Charles H. MacLaughlin, M.D.

Assistant Surgeons in Ophthalmology Julian F. Chisholm, M.D. Linley C. Happ, M.D. Paul D. Hurley, M.D. Arthur M. Morrissey, M.D. Bertha Offenbach, M.D. Paul M. Runge, M.D.

Glaucoma Consultation Service W. Morton Grant, M.D., Director

Cornea Service Claes H. Dohlman, M.D., Director Ocular Motility Service Stephen J. Fricker, M.D., Director Corneal Contact Lens Service Perry Rosenthal, M.D., Director Ophthalmic Pathology

Taylor R. Smith, M.D., Director General Eye Clinic Karl Riemer, M.D., Director

OPHTHALMOLOGY

Associate Staff

OTOLARYNGOLOGY

Active Staff

Assistants in Ophthalmology

Jack M. Bowers, M.D. John F. Griffin, M.D.* Barry H. Jacobs, M.D. Edward A. Ryan, M.D. *L.O.A.

Residents in Ophthalmology

Maida P. Antiqua, M.D.

Ann M. Bajart, M.D. Frank G. Berson, M.D.

William P. Boger, M.D.

Robin B. Cook, M.D.

Stephen R. Deppermann, M.D.

David L. Epstein, M.D.

Mitchell H. Friedlaender, M.D.

Paul L. Gunderson, M.D.

Philip J. Harris, M.D.

Jay H. Kaufman, M.D.

Raymond Liggio, M.D.

David Newsome, M.D.

Paul E. Pataky, M.D.

Charles T. Post, M.D. Lawrence I. Rand, M.D.

Thomas M. Richardson, M.D. Stephen Sullivan, M.D.

John Thomas, M.D.

Daniel W. Tolpin, M.D.

Martin Wand, M.D.

Marc C. Yoshizumi, M.D.

Clinical Fellows in Ophthalmology

Retina Service

Rendato Dias Cardozo, M.D.

Howard Barry Cohen, M.D.

Spiros O. Galinos, M.D.

Evangelos Gradoudas, M.D.

Gary S. Gutow, M.D.

Luis F. Hernandez Matute, M.D.

Worldster Sei-Ming Lee, M.D.

Donald F. Naegele, M.D.

Leo Masciulli, M.D.

Valdir B. Silva, M.D.

Burton Sidney Sultan, M.D.

Yvon Tardif, M.D.

Cornea Service

Mark B. Abelson, M.D.

Harrison D. Cavanagh, M.D.

Peter Donshik, M.D.

James R. Lee, M.D.

Richard North, M.D.

James T. Patten, M.D.

Glaucoma Service

David Dueker, M.D.

Neuro-Ophthalmology John F. Griffin, M.D.

Electro-Physiology

Jo Bernice Rosen, M.D.

Diabetic Retinopathy Robert McLemore Maddox, M.D.

Eye Pathology

Peter M. Holland, M.D.

William S. Holt, M.D.

David S. Hutchinson, M.D.

James W. Landers, M.D.

Daniel W. Tolpin, M.D.

William J. Wood, M.D.

Fluorescein

Jamie V. Lapus, M.D.

Research Fellow

Hong-Ming Cheng, Ph.D.

NEW ENGLAND EYE BANK

Maryellen McEvoy

Executive Director

S. Arthur Boruchoff, M.D.

Medical Director

Executive Committee

Jules L. Baum, M.D.

David G. Cogan, M.D.

Mrs. Richard Cary Curtis

Claes H. Dohlman, M.D.

Leonard S. Gottleib, M.D.

Brendan D. Leahey, M.D.

Howard M. Leibowitz, M.D. Robert E. Scully, M.D.

Mrs. William A. Slade, Jr.

MEDICAL STAFF EXECUTIVE

Thomas R. Klein, M.D., Chairman

Claes H. Dohlman, M.D.

Alfred L. Hurst, M.D.

B. Thomas Hutchinson, M.D.

John M. Kurkjian, M.D.

Robert H. Lofgren, M.D.

Charles D. J. Regan, M.D.

Harold F. Schuknecht, M.D.

Alfred W. Scott, M.D.

Richard J. Simmons, M.D.

Porter H. Smith, M.D.

Melville Chapin

Charles T. Wood

Chief of Otolaryngology Harold F. Schuknecht, M.D.

Surgeons in Otolaryngology

William L. Hayden, M.D.

Alfred L. Hurst, M.D.

Robert E. Klotz, M.D.

Donald K. Lewis, M.D.

John E. McKeigue, M. D.

William W. Montgomery, M.D.

Harold F. Schuknecht, M.D.

Sidney R. Wilker, M.D.

Associate Surgeons in Otolaryngology

Yale J. Berry, M.D.

Allan G. Edwards, M.D.

Richard R. Gacek, M.D.

Roy A. Johnson, M.D.

Donald G. Keamy, M.D.

Thomas R. Klein, M.D.

John M. Kurkjian, M.D.

Robert H. Lofgren, M.D.

Aram Roopenian, M.D.* John C. Trakas, M.D.

Assistant Surgeons in Otolaryngology

Robert V. Cheren, M.D.

Charles W. Cummings, M.D.

C. Edward Jackson, M.D.

Clarence E. Kylander, M.D. Carl M. Lieberman, M.D.

Rufus C. Partlow, M.D.

David L. Pierce, M.D. Albert Weiser, M.D.

Assistants in Otolaryngology

David D. Burtner, M.D.

Robert P. Cipro, M.D.

Howard M. Ecker, M.D.*

Richard L. Fabian, M.D.*

Edward E. Jacobs, M.D.

William G. Lavelle, M.D.

Jon B. Liland, M.D. David M. Metzner, M.D.

Joseph A. Moretti, M.D.

Thomas J. Mulvaney, M.D.

Angelo Pappanikou, M.D. Stephen A. Parker, M.D. **

Marshall Strome, M.D. Alfred D. Weiss, M.D.**

Ernest A. Weymuller, M.D.

William R. Wilson, M.D.

OTOLARYNGOLOGY Active Staff

Subdivision of Plastic Surgery Aram Roopenian, M.D., Associate Surgeon in Plastic Surgery Howard M. Ecker, M.D., Assistant in Plastic Surgery Richard L. Fabian, M.D., Assistant in

Subdivision of Otoneurology Alfred D. Weiss, M.D., Assistant in Otoneurology Stephen Parker, M.D., Assistant in Otoneurology

Subdivision of Otolaryngologic Pathology

Max L. Goodman, M.D., Director

Tumor Clinic

Plastic Surgery

Charles W. Cummings, M.D., Director

Endoscopy Service

William W. Montgomery, M.D., Director

Esophageal Voice Classes Ann Volk, Director

Audiology

Rhoda K. Morrison, Chief Audiologist

Consulting Chief of Otolaryngology LeRoy A. Schall, M.D.

Senior Consulting Surgeons in Otolaryngology

Walter J. E. Carroll, M.D. Charles I. Drooker, M.D. Carl H. Ernlund, M.D. Maurice G. Evans, M.D. John R. Frazee, M.D. Robert L. Goodale, M.D. Edgar M. Holmes, M.D.

Vincent J. Kelley, M.D. Moses H. Lurie, M.D. Daniel Miller, M.D. John R. Richardson, M.D. Bernard Zonderman, M.D.

The Infirmary's new operating room galleries afford the opportunity to observe very specialized surgical procedures firsthand.

Staff, employees and patients enjoy the spaciousness of the Infirmary Dining Room and its unequalled view of the Charles River.

HONORARY STAFF

Associate Surgeons in Otolaryngology Charles Kent, M.D. Herman J. Sternstein, M.D.

Assistant Surgeon in Otolaryngology Elizabeth DeBlois, M.D.

Assistants in Otolaryngology Frank W. Brady, M.D. Morris Swartz, M.D.

ASSOCIATE STAFF

Associate Surgeons in Otolaryngology Werner D. Chasin, M.D. Robert Wayne Clubb, M.D.

Residents in Otolaryngology Barry Benjamin, M.D. Richard Dolsky, M.D. Allan Goldstein, M.D. Victor M. Gotay, M.D. Charles Gruenwald, Jr., M.D. Eric Hammerschlag, M.D. James M. Hardy, M.D. James Kelly, M.D. Elv A. Kirschner, M.D. Bruce H. Klenoff, M.D. Steven A. Metzger, M.D. Joseph B. Nadol, Jr., M.D. Donald P. Shapiro, M.D. Bernard D. Sklansky, M.D. Robert A. Sofferman, M.D. Jerome Sugar, M.D. Robert E. Whited, M.D.

Michael Zoller, M.D.





DEPARTMENT OF ANESTHESIOLOGY

Common to Both Services

Chief of Anesthesiology Porter H. Smith, M.D.

Associate Anesthesiologist John V. Donlon, M.D.

Assistant Anesthesiologists Audrey A. Lewis, M.D. Eduardo Mancini, M.D.

Assistants in Anesthesiology Ieffrey Brand, M.D. Daniel F. Dedrick, M.D. Harry R. Frohberg, M.D. Angelo Gagliano, M.D. Thomas J. Keenan, M.D. Jin Woo Kim, M.D. Chull H. Lee, M.D. Jurgen Seebacher, M.D. Ismail Seda Sensel, M.D.

Dae Ik Sonn, M.D. Clinical Fellow in Anesthesiology Manuel S. Curiel, M.D.

DEPARTMENT OF RADIOLOGY

Chief of Radiology Department Alfred L. Weber, M.D., Director

Radiologists

Alexander S. MacMillan, Jr., M.D. Kiyokazu J. Momose, M.D.

Assistant Radiologist Jeanne Keller, M.D. Consultants in Radiotherapy Milford D. Schulz, M.D.

Herman D. Suit, M.D. Chiu-Chen Wang, M.D.

INTERNAL MEDICINE Richard A. Field, M.D., Consultant

MICROBIOLOGY

Microbiologist Anita Mangiaracine, A.B.

CLINICAL LABORATORY

Supervisor Ianis Avallone LaRosee

The members of the medical staff of the Massachusetts General Hospital are consultants to the Infirmary, and in this capacity become a part of the consulting staff of the Massachusetts Eye and Ear Infirmary.

DEPARTMENT OF
OPHTHALMOLOGY

DEPARTMENT OF OTOLARYNGOLOGY

DEPARTMENT OF OPHTHALMOLOGY

FACULTY

Howe Laboratory of Ophthalmology

Claes H. Dohlman, M.D.
David G. Cogan, M.D.
W. Morton Grant, M.D.
David D. Donaldson, M.D.
Stephen J. Fricker, M.D.
Shirley H. Wray, M.D.
Leo T. Chylack, Jr., M.D.
A. Robert Bellows, M.D.
Don C. Bienfang, M.D.
David G. Campbell, M.D.
Donovan J. Pihlaja, Ph.D.

Special Fellows

Henry N. Fukui, Ph.D.

Cecil K. Drinker, A.B.

Charles J. Snyder, Librarian

Duncan P. Anderson, M.D. Hong-Ming Cheng, O.D., Ph.D. David K. Dueker, M.D. John F. Griffin, M.D. M. Bruce Shields, M.D.

The Berman-Gund Laboratory for the Study of Retinal Degenerations

Eliot L. Berson, M.D., Director

R. Bruce Szamier, Ph.D.
Susan Y. Schmidt, Ph.D.
Ross B. Edwards, Ph.D.
Arnold R. Rabin, M.S.E.E.
Michael A. Sandberg, Ph.D.
Caecilia Huang, M.S.
Gail Watson, B.A.
Kathryn Woodle, M.A.T.

Clinical Electroretinography Service attached to the Berman-Gund Laboratory

Clinical Fellow Jo Bernice Rosen, M.D. Eaton Peabody Laboratory of Auditory Physiology

Nelson Y. S. Kiang, Ph.D., Director

Research Associates in Eaton Peabody Laboratory

Steven H. Colburn, Ph.D. Julius L. Goldstein, Ph.D. John J. Guinan, Jr., Ph.D. Eileen Cohen Kane, Ph.D. Donald K. Morest, M.D. Edwin C. Moxon, Ph.D. Michael J. Mulroy, Ph.D.

William T. Peake, Sc.D.
Raymond Romand, These de specialite
Walter A. Rosenblith, Ing. Rad.

Thomas F. Weiss, Ph.D.

Research Fellow in Otolaryngology

Joe C. Adams, Ph.D. Jay W. Bauer, Ph.D.

Research Assistants in Eaton Peabody Laboratory

Terrance Ř. Bourk, M.S. Don H. Johnson, Ph.D. M. Charles Liberman, B.A. Norman Megill, B.S. Victor Nedzelnitsky, E.E. Charles E. Smith, M.S.

Research Support Engineers, Eaton Peabody Laboratory

David W. Altmann, B.S. Alan H. Crist, B.S. David A. Steffens, B.S.

Microcirculatory Laboratory John W. Irwin, M.D.

Histopathology Laboratory
Harold F. Schuknecht, M.D.
William W. Montgomery, M.D.
Richard R. Gacek, M.D.

Electron Microscopy Laboratory

Research Associate Robert S. Kimura, B.A.

Clinical and Research Fellow Trevor McGill, M.D.

Research Fellow

Francisco Antoli-Candela, M.D.

Professor of Ophthalmology and Head of the Department Claes-Henrik Dohlman, M.D.

Henry Williard Williams Professor of Ophthalmology, Emeritus David G. Cogan, M.D.

Henry Williard Williams Clinical Professor of Ophthalmology Henry F. Allen, M.D.

Professor of Ophthalmology W. Morton Grant, M.D.

Associate Professors of Ophthalmology David D. Donaldson, M.D.

Charles D. J. Regan, M.D.

Associate Clinical Professors of Ophthalmology

Carl C. Johnson, M.D. Charles L. Schepens, M.D. Taylor R. Smith, M.D.

Assistant Professors of Ophthalmology

Eliot L. Berson, M.D. Leo T. Chylack, Jr., M.D. Stephen J. Fricker, M.D. R. Bruce Szamier, Ph.D. (Neuropathology) David Miller, M.D. Richard M. Robb, M.D. Richard A. P. Thoft, M.D.

Assistant Professor of Biochemical Ophthalmology

Liane Reif-Lehrer, Ph.D.

Assistant Clinical Professors of Ophthalmology

S. Arthur Boruchoff, M.D.
Robert J. Brockhurst, M.D.
H. MacKenzie Freeman, M.D.
B. Thomas Hutchinson, M.D.
Sumner D. Liebman, M.D.
J. Wallace McMeel, M.D.
Abraham Pollen, M.D.
Alfred W. Scott, M.D.

Richard J. Simmons, M.D. Lecturer on Ophthalmology

Endre A. Balazs, M.D.

Principal Associate in Ophthalmology (Administration)

Cecil K. Drinker

Instructors in Ophthalmology

Don C. Bienfang, M.D. David G. Campbell, M.D. Arthur S. Grove, Jr., M.D. Robert A. Petersen, M.D. David S. Walton, M.D.

Instructor in Ophthalmic Research

Donovan J. Pihlaja, Ph.D.

Instructor in Neuropathology (Department of Ophthalmology) Susan Y. Schmidt, Ph.D.

DEPARTMENT OF OTOLARYNGOLOGY

Clinical Instructors in Ophthalmology

Lloyd M. Aiello, M.D. A. Robert Bellows, M.D.

Charles K. Beyer, M.D.

Harry E. Braconier, M.D.

John M. Carroll, M.D.

Richard B. Chapman, M.D.

Eugene C. Ciccarelli, M.D.

Richard L. Dallow, M.D.

Elliot M. Finkelstein, M.D.

Albert B. Frederick, Jr., M.D.

Carl G. Freese, Jr., M.D.

George E. Garcia, M.D.

John R. Gehring, M.D.

Ralph H. Hinckley, M.D.

Roland E. Houle, M.D.

Mohandas M. Kini, M.D.

Deborah Pavan-Langston, M.D.

Robert C. Lawler, M.D.

Byron S. Lingeman, M.D.

George M. Olive, Jr., M.D.

Irving L. Pavlo, M.D.

Ronald C. Pruett, M.D.

Perry Rosenthal, M.D.

Baruch J. Sachs, M.D.

David H. Scott, M.D.

Harvey H. Slansky, M.D.

Donald R. Weis, M.D.

Michael Weidman, M.D.

Clinical Instructor in Ophthalmic Research

Judith A. Jedziniak, Ph.D.

Clinical Assistants in Ophthalmology

Chester J. Boulris, M.D.

Robert A. Gorn, M.D.

Eric H. Johnson, M.D.

Joseph C. Kim, M.D.

Joel A. Kraut, M.D.

Brent W. Lambert, M.D.

Joseph Michon, Jr., M.D.

Edward B. Murphy, Jr., M.D.

John G. Sebestyen, M.D.

Research Fellows in Ophthalmology

Ross B. Edwards, Ph.D.

Michael A. Sandberg, Ph.D.

Clinical Fellows in Ophthalmology

William P. Boger, III, M.D.

Robin B. Cook, M.D.

David L. Epstein, M.D.

Mitchell H. Friedlaender, M.D.

William S. Holt, M.D.

Jay H. Kaufman, M.D.

Raymond Liggio, M.D.

David A. Newsome, M.D.

Paul E. Pataky, M.D.

Charles T. Post, Jr., M.D.

Daniel W. Tolpin, M.D.

Martin Wand, M.D.

Librarian, Lucien Howe Library of Ophthalmology

Charles J. Snyder

Walter Augustus LeCompte Professor of Otology

Professor of Laryngology—Tenured Harold Frederick Schuknecht, M.D.

Professor of Otolaryngology William Wayne Montgomery, M.D.

Associate Professor of Otolaryngology Richard Raymond Gacek, M.D.

Associate Professor of Otolaryngology Daniel Miller, M.D.

Assistant Professors of Otolaryngology Marshall Strome, M.D. William Rosser Wilson, M.D.

Assistant Clinical Professors of Otolaryngology

Charles William Cummings, M.D. Burton Frederick Jaffe, M.D. Robert Harding Lofgren, M.D.



The patient record is annotated regularly by those trained in the specialties.

Assistant Professor of Neurology Alfred David Weiss, M.D.

Associate Professor of Pathology Max Lawrence Goodman, M.D.

Instructor in Neurology Stephen William Parker, M.D.

Clinical Instructors in Otolaryngology

Yale Joel Berry, M.D. Richard Louis Fabian, M.D.

William Lee Hayden, M.D.

Alfred Lionel Hurst, M.D.

Edward Ellis Jacobs, Jr., M.D.

Roy Allen Johnson, M.D.

Robert Eugene Klotz, M.D. John Melkon Kurkjian, M.D.

Clarence Edward Kylander, M.D.

William Gaynor Lavelle, M.D.

Donald K. Lewis, M.D.

Carl Marcus Lieberman, M.D.

John Edward McKeigue, M.D. David Mark Metzner, M.D.

Joseph Anthony Moretti, M.D.

Thomas John Mulvaney, M.D. Angelo John Pappanikou, M.D.

Rufus Cornelius Partlow, Jr., M.D.

Aram Roopenian, M.D.

Terence James Stewart, M.D. Ernest Alfred Weymuller, M.D.

Sidney Wilker, M.D.

Lecturer on Otolaryngology Robert Shigetsugu Kimura, B.S.

Lecturers on Otolaryngology Werner David Chasin, M.D.

Walter Altar Rosenblith, Ph.D.

Principal Associates in Otolaryngology
John Wellington Irwin, M.D.

Nelson Yuan-sheng Kiang, Ph.D. Edwin Charles Moxon, Ph.D.

Research Fellows in Otolaryngology Francisco Antoli-Candela, Jr., M.D. Trevor John Irving McGill, M.D. Raymond Romand, Ph.D.

Clinical Fellows in Otolaryngology Allan Joel Goldstein, M.D. Eli Abram Kirschner, M.D. Joseph Bronislaw Nadol, Jr., M.D. Robert Alan Sofferman, M.D. Robert Elbert Whited, M.D.

Department of Ophthalmology Surgical and Research Staffs

- *ALLEN, Henry F.: "Artentis and Vasculitis: Relation to Ocular Disease." Chapter 10 in: Ocular Inflammatory Disease. Edited by Bruce Golden. Springfield. Thomas. 1974. pp. 73-76.
- ALLEN, Henry F.: "Diagnostic Techniques in Ocular Bacteriology." Chapter 16 in: Ocular Inflammatory Disease. Edited by Bruce Golden. Springfield. Thomas. 1974. pp. 128-133.
- ALLEN, Henry F.: "Round Table Discussion: Treatment of Bacterial Infections." Chapter 20 in: Ocular Inflammatory Disease. Edited by Bruce Golden. Springfield. Thomas. 1974. pp. 180-184.
- BELLOWS, A. Robert, Lahav, M. and Lepreau, F. J.: "Ocular Manifestations of Xeroderma Pigmentosum in a Black Family." Arch. Ophthalmol. 92:113-117, Aug. 1974.
- BERSON, Eliot L., Rabin, A. R. and Mehaffey, L. 3rd.: "Advances in Night Vision Technology. A Pocketscope for Patients with Retinitis Pigmentosa." Arch, Ophthalmol. 90:427-431, Dec. 1973.
- BERSON, Eliot L., Mehaffey, L. and Rabin, A. R.: "A Night Vision Pocketscope for patients with Retinitis Pigmentosa. Design Considerations." Arch. Ophthalmol. 91:495-500, June 1974.
- BERSON, Eliot L. and Rabin, A. R.: "A Full Field System for Clinical Electroretinography." Arch. Ophthalmol. 92:59-63, July 1974.
- BERSON, Eliot L., Mehaffey, L. 3rd, and Rabin, A. R.: "A Night Vision Device as an Aid for Patients with Retinitis Pigmentosa." Arch. Ophthalmol. 90:112-116, Aug. 1973.
- BERSON, Eliot L.: "Electroretinographic Testing as an Aid in Determining Visual Prognosis in Families with Hereditary Retinal Degenerations." No. 3 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 41-54.
- Berson, Eliot L. (See HILL, D. A., MEHAFFEY, L. 3rd.)
- BEYER, Charles K.: "A Modified Lacrimal Probe." Arch. Ophthalmol. 92:157, Aug. 1974.
- BIENFANG, Don C.: "Opsoclonus in Infancy." Arch. Ophthalmol. 91:203-205, March 1974.
- Bienfang, Don C., GOLDSM1TH, L. A., Kang, E., et. al.: "Tyrosenemia with Plantor and Palmer Keratosis and Keratitis." J. Pediatr. 83:798-805, Nov. 1973.
- Boruchoff, S. Arthur (See DOHLMANN, C. H.) Braconier, Harry E. (See SNYDER, C.)
- BROCKHURST, Robert J. and Lam, K.-W.: "Uveal Effusion II. Report of a Case with Analysis of Subretinal Fluid." Arch. Ophthalmol. 90:399-401, Nov. 1973.
- BROCKHURST, Robert J.: "360-Degree Scleral Buckling." No. 31 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 413-418.
- Brockhurst, Robert J. (See PRUETT, R. C.) CHADER, Gerald J., Herz, L. R. and Fletcher, R.
- T.: "Light Activation of Phosphodiesterase Activity in Retinal Rod Outer Segments." Biochem. Biophys. Acta 347:491-493, June 28, 1974.
- CHYLACK, Leo T., Jr.: "Thermo-Instability of Rat Hexokinase." Exp. Eye Res. 17:109-117, Oct. 1973. CHYLACK, Leo T., Jr.: "Soluble, Insoluble, and Latent Hexokinase in the Mammalian Lens." Ophthalmol. Res. 6:106, 1974.

- COGAN, David G.: "Paralysis of Down-Gaze." Arch. Ophthalmol. 91:192-199, March 1974.
- Cogan, David G., CHAR, D. H. and Hollinshead, A.: "Cutaneous Delayed Hypersensitivity Reactions to Soluble Melanoma Antigen in Patients with Ocular Malignant Melanoma." N. Engl. J. Med. 291:272-277, Aug. 1974.
- CONSTABLE, lan J., Oguri, M., Chesney, C. M., et. al.: "Platelet-Induced Vitreous Membrane Formation." Invest. Ophthalmol. 12:680-685, Sept. 1973. CONSTABLE, lan J. and Koehler, A. M.: "Experimental Ocular Irradiation with Accelerated Protons." Invest. Ophthalmol. 13:280-287, April 1974. CONSTABLE, lan J.: "Perfluoropentane in Experimental Ocular Surgery." Invest. Ophthalmol. 13:627-629, Aug. 1974.
- CONSTABLE, lan J., Tolentino, F. I., Donovan, R. H., et al.: "Clinico-Pathologic Correlation of Vitreous Membranes." No. 19 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 245-257.
- CONSTABLE, lan J. and Swann, D. A.: "Vitreous Substitution." No. 60 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 709-713.
- Constable, Ian J. (See LAM, K. W.; LEE, P.-F.; SWANN, D.A.)
- DALLOW, Richard L.: Color Infrared Photography of the Ocular Fundus." Arch. Ophthalmol. 92:254-258, Sept. 1974.
- DALLOW, Richard L. and McMeel, J. W.: "Infrared Photography of the Ocular Fundus." No. 9 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 125-133.
- DeCEVALLOS, Elizabeth and Dohlman, C. H.: "Queratitis Rosácea." Bol. Instit. Nac. Invest. Oftalmol. 1:563-570, 1973.
- Doane, Marshall G. (See DOHLMAN, C. H.) DOHLMAN, Claes H., Boruchoff, S. A. and Mobilia, E.: "Complications in Use of Soft Contact Lenses in Corneal Disease." Arch. Ophthalmol. 90:367-371, Nov. 1973.
- DOHLMAN, Claes H.: "Pathophysiology of Graft Failure." Chapter in: Ciba Foundation Symposium 15. (New Senes) Corneal Graft Failure. New York. Associated Scientific Pub. 1973. pp. 25-41.
- DOHLMAN, Claes H., Thoft, R. A. and Gordon, J. M.: "Glaucoma Following Keratoplasty." Trans. Am. Acad. Ophthalmol. Otolaryngol. 78:OP352-364, Mar.-Apr. 1974.
- DOHLMAN, Claes H., Schneider, H. A. and Doane, M. G.: "Prosthokeratoplasty." Am. J. Ophthalmol. 77:694-700, May 1974.
- DOHLMAN, Claes H.: "Complications in Therapeutic Soft Lens Wear." Trans. Am. Acad. Ophthalmol. Otolaryngol. 78:399-405, May-June 1974.
- Dohlman, Claes H. (See DeCEVALLOS, E., SCHNEIDER, H.)
- DONALDSON, David D.: Atlas of External Diseases of the Eye. Vol. IV. Anterior Chamber, Iris, and Ciliary Body. St. Louis. Mosby. 1973. xiv. 369 pp. illus. 16 View-Master Reels.
- Donaldson, David D. and LEWIS, R. A.: "Traumatic Retinal Hemorrhage." Arch. Ophthalmol. 90:502-503, Dec. 1973.

- DONOVAN, Richard H., Schepens, C. L., Carpenter, R. L. and Tolentino, F. I.: "Histology of the Normal Collie Eye. I. Topography, Cornea, Sclera and Filtration Angle." Ann. Ophthalmol. 6:257-260, March 1974.
- FLOYD, Robert P. and Garcia, G. E.: "The Ophthalmetron. A Clinical Trial of Accuracy." Arch. Ophthalmol. 92:10-14, July 1974.
- FREEMAN, H. MacKenzie: "Recent Advances in Retinal Detachment and Vitreous Surgery." Aron. J. 18:896-906, 1973.
- FREEMAN, H. MacKenzie and Schepens, C. L.: "Innovations in the Technique for Drainage of Subretinal Fluid: Transillumination and Choroidal Diathermy." Trans. Am. Acad. Ophthalmol. Otolaryngol. 78:OP829-836, Sept. -Oct. 1974.
- FREEMAN, H. MacKenzie, Humphrey, W. T., Schepens, C. L., et. al.: No. 29 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 391-396.
- FREEMAN, H. MacKenzie: "Current Management of Giant Retinal Breaks." No. 36 in: Retina Congress. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 453-463.
- FREEMAN, H. MacKenzie: "Vitreous Surgery. I. Membrane Sectioning." No. 58 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 669-675.
- Freeman, H. MacKenzie (see HIROSE, T., PRUETT, R. C.)
- FRICKER, Stephen J. and Sanders, J. J. 3rd.: "Clinical Studies of the Evoked Response to Rapid Random Flash." Electroencephalogr. Clin. Neurophysiol. 36:525-532, May 1974.
- FRICKER, Stephen J. and Sanders, J. J. 3rd.: "Velocity Measurements as Dynamic Parameters for Oculomotor Studies." Am. Orthop. J. 24:47-53, 1974.
- Garcia, George E. (See FLOYD, R. P.) Gordon, James M. (See DOHLMAN, C. L.)
- Gorn, Robert A. (See WAND, M.)
- GRANT, W. Morton: "Management of Neovascular Glaucoma." Chapter 4 in: Symposium on Ocular Therapy. Vol. 7. Edited by I. H. Leopold. St. Louis. Mosby. 1974. pp. 36-61.
- GRANT, W. Morton: Toxicology of the Eye. 2nd. ed. Springfield. Thomas. 1974. xi. 1201 pp.
- Grant, W. Morton (See JOHNSTONE, M. A.; VAN BUSKIRK, E. M.)
- GROVE, Arthur S.: "Orbital Radionuclide Examinations." Trans. Am. Acad. Ophthalmol. Otolaryngol. 78:OP587-598, Jul.-Aug. 1974.
- HILL, David A., Arbel, K. F. and Berson, E. L.: "Cone Electroretinograms in Congenital Nyctalopia with Myopia." Am. J. Ophthalmol. 78:127-136, July 1974.
- HIROSE, Tatsuo, Lee, K. Y. and Schepens, C. L.: "Snowflake Degeneration in Hereditary Vitroretinal Degeneration." Am. J. Ophthalmol. 77:143-155, Feb. 1974.
- HIROSE, Tatsuo: "Human Visual Evoked Responses to Focal Illumination of the Retina: Clinical Applications." No. 4 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 55-78.

HIROSE, Tatsuo, Marcil, G., Schepens, C. L., et. al.: "Acquired Retinoschisis: Observations and Treatment." No. 39 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 489-504.

Hirose, Tatsuo (See WOLF, E.)

JOHNSON, Carl Cordes and Kuwabara, T.: "Oculopharyngeal Muscular Dystrophy." Am. J. Ophthalmol. 77:872-879, June 1974.

Johnson, Eric H., WEINSTEIN, A. J. and Mollering, R. C.: "Candida Endophthalmitis." Arch. Int. Med. 132:749-752, Nov. 1973.

JOHNSTONE, Murray A. and Grant, W. M.: "Microsurgery of Schlemm's Canal and the Human Aqueous Outflow System." Am. J. Ophthalmol. 76:906-917, Dec. 1973.

LAWLOR, Robert C.: "Traitement Chirurgical Précoce de L'Esotropie Acquise." Bull. Mem. Soc. Fran. d'Ophtalmol. 86:324-327, 1973.

LEAHEY, Brendan D.: "Aedeme de Cornée en Relation avec un Contact Vitréen Étude a Long Terme et Nouveau Bilan." Bull. Mem. Soc. Fran. d'Ophtalmol. 86:276-278, 1973.



Important alliances are formed between Volunteers and young patients during what is, for many of them, their first hospital experience.

LEE, Pei-Fei, Schepens, C. L., Constable, I. J., et al.: "Experimental Vitreous Surgery in Monkeys. IX. Pars Plana Approach in Open-Sky Technique." Arch. Ophthalmol. 92:139-141, Aug. 1974.

McMEEL, J. Wallace: "Treatment of Traction Detachment of the Retina by Scleral Resection." No. 41 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 511-521.

McMeel, J. Wallace (See DALLOW, R. L.) Mehaffey, Leathem 3rd. (See BERSON, E. L.)

MILLER, David, Kohn, A. and Weiss, A. D.: "Transconjunctival Stimulation of the Musculus Orbicularis." Arch. Ophthalmol. 90:389-392, Nov. 1973

MILLER, David and Stern, R. "Vision Screening and Hearing in the Elderly." Eye, Ear, Nose, Throat Mon. 53:128-133, April 1974.

MILLER, David, Zuckerman, J. L. and Reynolds, G. O.: "Holographic Filter to Negate the Effect of Cataract." Arch. Ophthalmol. 90:323-326, Oct. 1973.

MILLER, David: "The Effect of Sunglasses on the Visual Mechanism." Surv. Ophthalmol. 19:38-44, Jul.-Aug. 1974.

Miller, David, MILLODOT, M. and Jernigan, M. E.: "Evaluation of an Objective Acuity Device." Arch. Ophthalmol. 90:449-452, Dec. 1973.

Mobilia, Eleanor F. (See DOHLMAN, C. L.)

OKAMURA, Ichiro: "Implants in Retinal Surgery." No. 24 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 319-324.

PAVAN-LANGSTON, Deborah: "New Developments in the Theory of Ocular Herpes Simplex." Chapter in: External Ocular Diseases: Diagnosis and Current Therapy. International Ophthalmology Clinics. 13:53-63, Winter 1973.

PETERSON, Robert A.: "Schmid-Fraccaro Syndrome ("Cat's Eye" Syndrome)." Arch. Ophthalmol. 90:287-291, Oct. 1973.

PETERSON, Robert A.: "Eye Disorders." Chapter 20 in: Manual of Pediatric Therapeutics. Edited by John W. Graef and Thomas E. Cone. Boston. Little, Brown. 1974. pp. 475-489.

PRUETT, Ronald C., Schepens, C. L. and Freeman, H. M.: "Collagen Vitreous Substitute. II. Preliminary Clinical Trials." Arch. Ophthalmol. 91:29-32, Jan. 1974.

PRUETT, Ronald C., Brockhurst, R. J. and Letts, N. F.: "Fluorescein Angiography of Peripheral Uveitis." Am. J. Ophthalmol. 77:448-453, April 1974.

PRUETT, Ronald C.: "Cyanoacrylate Adhesive in Scleral Buckling Operations." No. 42 in: Retina Congress. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 523-531.

PRUETT, Ronald C. and Regan, C. D. J.: Retina Congress. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. xix. 730 pp. illus.

RABIN, Arnold and Berson, E. L.: "A Full Field System for Clinical Electroretinography." Arch. Ophthalmol. 92:59-63, July 1974.

Rabin, Arnold R. (See BERSON, E. L.) Regan, Charles D. J. (See PRUETT, R. C.)

ROBB, Richard M.: "Histochemical Evidence of Cyclic Nucleotide Phosphodiesterase in Photoreceptor Outer Segments." Invest. Ophthalmol. 13:740-747, Oct. 1974.

Sanders, James J. 3rd. (See FRICKER, S. J.) SCHEPENS, Charles L.: "[Diagnostic Procedures in Retinal Detachment]" Harefuah 85:457-461, Nov.

SCHEPENS, Charles L.: "Developments in Ophthalmoscopy." No. 7 in Retina Congress. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 101-114. SCHEPENS, Charles L.: "Rationale of Surgical Procedures." No. 23 in: Retina Congress. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 297-318. SCHEPENS, Charles L.: "Vitreous Surgery. II. Tissue Removal." No. 58 in: Retina Congress. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 677-701. Schepens, Charles L., HUMPHREY, W., Elzeneiny, 1., et al.: "The Release of Subretinal Fluid and Its Complications." No. 28 in: Retina Congress. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 383-390. Schepens, Charles L. and KING, L. M.: "Limbal Pentomy in Retinal Detachment Surgery." Arch.

Schepens, Charles L., KING, L. M. and Margheno, R.: "Absorbable Gelatin Implants in Scleral Buckling Procedures: A Follow-Up Report." No. 27 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 371-382.

Ophthalmol. 91:295-298, April 1974.

Schepens, Charles L., LAM, K. W., Constable, I. J. et al.: "Studies on the Cellular Constituents and Hydrolytic Enzymes in Human Subretinal Fluid." No. 21 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 281-288.

Schepens, Charles L., POMERANTZEFF, O. and Fish, H. B.: "Wide-Angle Optical Model of the Eye." No. 6 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 91-100.

Schepens, Charles L. and POMERANTZEFF, O.: "Wide-Angle Camera." No. 8 in: Retina Congress. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 115-124.

Schepens, Charles L. (See CONSTABLE, I.; DONOVAN, R.; FREEMAN, H.; HIROSE, T.; LEE, P.; PRUETT, R.; SEELENFREUND, M.; TOLENTINO, F.)

SCHNEIDER, Harold A. and Dohlman, C. H.: "Diffuse Subepithelial Infiltrates of Epidemic Keratoconjunctivitis." Arch. Ophthalmol. 90:407, Nov. 1973.

Schneider, Harold A. (See DOHLMAN, C. H.) SEELENFREUND, Morton H., Schepens, C. L., Kraushar, M. F., et al.: "Primary Retinal Detachment Presenting with Detachment of the Choroid." No. 37 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp 465-478.

SNYDER, Charles and Braconier, H. E.: "As It Was in the Beginning. An Informal History of the New England Ophthalmological Society." Arch. Ophthalmol. 92:250-253, Sept. 1974.

THOFT, Richard A., Gordon, J. M. and Dohlman, C. H.: "Glaucoma Following Keratoplasty." Trans. Am. Acad. Ophthalmol. Otolaryngol. 78:OP352-364, Mar.-Apr. 1974.

TOLENTINO, Felipe 1., Schepens, C. L. and Liu, H.-s.: "Vitreous Surgery. XI. A Scleral Supporter for Vitreous Surgery." Arch. Ophthalmol. 91:311-312, April 1974.

TOLENTINO, Felipe I.: "The Vitreous. Annual Review." Arch. Ophthalmol. 92:350-358, Oct. 1974

TOLENTINO, Felipe I., Schepens, C. L. and Pomerantzeff, O.: "Advances in the Technique of Vitreous Cavity Examination." No. 16 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 215-227.

Tolentino, Felipe I. and TABLANTE, R.: "The Use of Retinal Gelfilm in Detachment Surgery without Subretinal Fluid Drainage." No. 26 in: Retina Congress. Edited by Ronald C. Pruett and Charles D. J. Regan. New York, Appleton-Century-Crofts. 1974. pp. 355-369.

Tolentino, Felipe I. (See CONSTABLE, 1.; DONOVAN, R. H.)

VAN BUSKIRK, E. Michael and Grant, W. M.: "Lens Depression and Aqueous Outflow in Enucleated Primate Eyes." Am. J. Ophthalmol. 76:632-640, Nov. 1973.

VAN BUSKIRK, E. Michael and Grant, W. M.: "Influence of Temperature and the Question of Involvement of Cellular Metabolism in Aqueous Outflow." Am. J. Ophthalmol. 77:656-572, April 1974.

Violin, George A., GOTTLIEB, G. K. and Fisher, B. K.: "Focal Dermal Hypoplasia." Arch. Dermat. 108:551-554, Oct. 1973.

WAND, Martin and Gorn, R. A.: "Cholesterolosis of the Anterior Chamber." Am. J. Ophthalmol. 78:143-144, July 1974.

WAND, Martin: "Provocative Tests in Angle-Closure Glaucoma: A Brief Review with Commentary." Ophthal. Surg. 5:32-37, Summer, 1974.

WIEDMAN, Michael: "Nouvelle Recherche Oculaire au Mont Everest." Bull. Mem. Soc. d'Ophtalmol. 86:201-207, 1973.

WIEDMAN, Michael: "Effets de l'Hypoxie en Haute Altitude sur la Fonction Visuelle." Sandorama 37:810, 1974.

Weiss, Alfred (See MILLER, D.)

WOLF, Ernst and Hirose, Tatsuo: "Visual Sensitivity Studies in Primary Retinal Detachment and in the Fellow Eye." No. 5 in: *Retina Congress*. Edited by Ronald C. Pruett and Charles D. J. Regan. New York. Appleton-Century-Crofts. 1974. pp. 79-90. Wolf, Ernst (See HIROSE, T.)

Wray, Shirley H. and BROWNE, T. R.: "Subjunctival Hemorrhage as a Complication of Ophthalmodynamometry in an Anticoagulated Patient." Am. J. Ophthalmol. 76:981-983, Dec. 1973.

Wray, Shirley H., GROWDEN, J. H. and Winkler, G. F.: "Midbrain Ptosis. A Case with Clinicopathologic Correlation." Arch. Neurol. 30:179-181, Feb. 1974.

Wray, Shirley H., LEHRICH, J. R., Barry, G. W., et. al.: "Parainfluenza, Histocompatibility, and Multiple Sclerosis; Association of Parainfluenza Antibodies and Histocompatibility Types in Multiple Sclerosis and Optic Neuntis." Arch. Neurol. 30:327-329, April 1974.

Wray, Shirley H., ARNASON, B. G., Fuller, T., et. al.: "Histocompatibility Types and Measles Antibodies in Multiple Sclerosis and Optic Neuritis." J. Neurol. Sci. 22:419-428, August 1974.

Altmann, David W. (See WEISS, T. F., MULROY, M. J.)

*BELAL, Aziz and Stewart, T. J.: "Pathological Changes in the Middle Ear Joints." Ann. Otol. Rhinol. Laryngol. 83:159-167, Mar. Apr. 1974.

Belal, Aziz (See ETHOLM, B.)

BERRY, Yale: "Otitis Media." Forum on Infection 1: No. 2, July 1974.

BRAWER, James R., Morest, D. K. and Kane, E. C.: "The Neuronal Architecture of the Cochlear Nucleus of the Cat." J. Comp. Neurol. 155:251-300, June 1974.

Brawer, James R. (See COHEN, E. S.)

BURTNER, David and Goodman, M. L.: "Etiological Factors in Poststapedectomy Granulomas." Arch. Otolaryngol. 100:171-173, Sept. 1974.

COHEN, Eileen S., Brawer, J. R. and Morest, D. K.: "Projections of the Cochlea to the Dorsal Cochlear Nucleus in the Cat." Exp. Neurol. 35:470-479, June 1972.

COHEN, Eileen S. (See KANE, E. C.)

COLBURN, H. Steven: "Theory of Binaural Interaction Based on Auditory-Nerve Data. I. General Strategy and Preliminary Results on Interaural Discrimination." J. Acoust. Soc. Am. 54:1458-1470, June 1973.

CUMMINGS, Charles W.: "Incidence of Nodal Metastases in T2 Supraglottic Carcinoma." Arch. Otolaryngol. 99:268-269, April 1974.

CUMMINGS, Charles W.: "Preservation of the Mandibular Arch in the Floor of the Mouth Carcinoma Employing a Temporary Pharyngostome." J. Laryngol. Otol. 88:329-334, April 1974.

Donlon, John V., RYAN, J., Malt, R., et. al.: "Cardiopulmonary Bypass in the Treatment of Malignant Hyperthermia." N. Engl. J. Med. 290:1121-1122, May 16, 1974.

ETHOLM, Bjorn and Belal, A.: "Senile Changes in the Middle Ear Joints." Ann. Otol. Rhinol. Laryngol. 83:49-54, Jan.-Feb. 1974.

GACEK, Richard R.: "A Cerebellocochlear Nucleus Pathway in the Cat." Exp. Neurol. 41:101-112, Oct. 1973.

GACEK, Richard R.: "The Surgical Management of Labyrinthine Fistulae in Chronic Otitis Media with Cholesteatoma." Ann. Otol. Rhinol. Laryngol. 83:Suppl. 10, 1-9, Jan. Feb. 1974.

GACEK, Richard R. and Lyon, M.: "The Localization of Vestibular Efferent Neurons in the Kitten with Horseradish Peroxidase." Acta Otolaryngol. 77:92-101, Feb. 1974.

GACEK, Richard R.: "Localization of Neurons Supplying the Extraocular Muscles in the Kitten Using Horseradish Peroxidase." Exp. Neurol. 44:381-403, Sept. 1974.

GACEK, Richard R.: "Transection of the Posterior Ampullary Nerve for the Relief of Benign Paroxysmal Vertigo." Ann. Otol. Rhinol. Laryngol. 85:596-605, Sept.-Oct. 1974.

GOODMAN, Max L., Gambill, J. S., Nims, J. C., Irwin, J. W., Rivers, R. and Koachman, A.M.: "The Inflammatory Process in the Middle Ear and Eustachian Tube." Bibl. Anat. 11:370-375, 1973.

Goodman, Max L. (See BURTNER, D.,

Goodman, Max L. (See BURTNEF SCHUKNECHT, H.)

IRWIN, John W.: "The Light Microscope in Microvascular Research. Limitations of the Techniques." Bibl. Anat. 11:228-232, 1973.

Irwin, John W. (See GOODMAN, M. L., NIMS, J. C.)

JAFFE, Burton F.: "Pediatric Head and Neck Tumors: A Study of 178 Cases." Laryngoscope 83:1644-1651, Oct. 1973.

JAFFE, Burton F.: "Otolaryngology for the Dentist: Emphasis on the Physical Examination and Its Significance." Dent. Clin. North Am. 18:77-95, Jan. 1974.

JAFFE, Burton F., ed.: "Upper Respiratory Tract Conditions in Children." Report of the Fourth Ross Round Table. July 1974.

JAFFE, Burton F.: "Diseases and Surgery of the Nose." Clin. Sympos. 26:1-32, 1974.

Jaffe, Burton F. (See STROME, M.)

Jako, Geza J., STRONG, M. S., Polanyi, T., et. al.: "Laser Surgery in the Aerodigestive Tract." Am. J. Surg. 126:529-533, Oct. 1973.

KANE, Eileen C.: "Patterns of Degeneration in the Caudal Cochlear Nucleus of the Cat after Cochlear Ablation." Anat. Rec. 179:67-91, May 1974.

KANE, Eileen C.: "Synoptic Organization in the Dorsal Cochlear Nucleus of the Cat: A Light and Electron Microscopic Study." J. Comp. Neurol. 155:301-329, June 1974.

KANE, Eileen C.: "Octopus Cells in the Cochlear Nucleus of the Cat: Heterotypic Synapses upon Homeotypic Neurons." Int. J. Neurosci. 5:251-279, 1973.

Kane, Eileen C. (See BRAWER, J. R.) KlANG, Nelson Y. and Moxon, E. C.: "Tails of Tuning Curves of Auditory-Nerve Fibres." J. Acoust. Soc. Am. 55:620-630, March 1974.



Ongoing residency training programs offer the finest medical education and patient care within the disciplines.

NEDZELNITSKY, Victor: "Measurements of Sound Pressure in the Cochlea of Anesthetized Cats." Chapter in: Facts and Models in Hearing. Edited by E. Zwicker and E. Terhardt. Berlin. Springer. 1974. pp 45-53.

KIANG, Nelson Y., Morest, D. K., Godfrey, D. A., et. al.: "Stimulus Coding at Caudal Levels of the Cat's Auditory Nervous System: I. Response Characteristics of Single Units." Chapter in: *Basic Mechanisms in Hearing.* Edited by Aage Møller. New York. Academic Press. 1973. pp. 455-478.

KIMURA, Robert S., Schuknecht, H. F. and Ota, C. Y.: "Blockage of the Cochlear Aqueduct." Acta Otolaryngol. 77:1-12, Jan.-Feb. 1974.

KIMURA, Robert S. and Ota, C. Y.: "Ultrastructure of the Cochlear Blood Vessels." Acta Otolaryngol. 77:231-250, April 1974.

Kimura, Robert S. (See SCHUKNECHT, H. F.) KOHLLOFFEL, Lothar: "Recording from Spiral Ganglion Neurons." Chapter in: Facts and Models in Hearing. Edited by E. Zwicker and E. Terhardt. Berlin. Springer. 1974. pp. 193-203.

Lavelle, William G. (See MONTGOMERY, W.W.) LUK, Gorden D., Morest, D. K. and McKenna, N. M.: "Origins of the Crossed Olivocochlear Bundle Shown by an Acid Phosphatase Method in the Cat." Ann. Otol. Rhinol. Laryngol. 83:382-392, May-June, 1974.

McCLERKIN, William W. and Schuknecht, H. F.: "Facial Nerve and Stapes Anomaly: A Case Report." Laryngoscope 84:1202-1209, July 1974.

McKenna, Nancy (See LUK, G. D.)

Montandon, Pierre (See MULVANEY, T. J.)

MONTGOMERY, William W.: "Cerebrospinal Fluid Rhinorrhea." Otol. Clin. N. Amer. 6:757-772, Oct. 1973.

MONTGOMERY, William W.: "Silicone Tracheal T-Tube." Ann. Otol. Rhinol. Laryngol. 83:71-75, Jan.-Feb. 1974.

MONTGOMERY, William W.: "Suprahyoid Release for Tracheal Anastomosis." Arch. Otolaryngol. 99:255-260, April 1974.

MONTGOMERY, William and Lavelle, W. G.: "A Technique for Improving Esophageal and Tracheopharyngeal Speech." Ann. Otol. Rhinol. Laryngol. 83:452-461, Jul.-Aug. 1974.

MOREST, D. Kent: "Auditory Neurons of the Brain Stem." Adv. Otorhinolaryngol. 20:337-356, 1973.

Morest, D. Kent (See BRAWER, J. K.; COHEN, E. S.; KIANG, N. Y.; LUK, G.)

Moxon, Edwin C. (See KIANG, N. Y.)

MULROY, Michael J., Altmann, D. W., Weiss, T. F. and Peake, W. T.: "Intracellular Electric Responses to Sounds in a Vertebrate Cochlea." Nature 249:482-485, May 31, 1974.

Mulroy, Michael J. (See WEISS, T. W.)

MULVANEY, Thomas J. and Montandon, P.: "Traumatic Oval Window Fistula with Cerebrospinal Fluid 'Gusher'." Ann. Otol. Rhinol. Laryngol. 83:414-415, May-June 1974.

MULVANEY, Thomas J.: The Last Pack; How to Stop Smoking. Winchester. Privately Published. 1974. 119 pp.

NADOL, Joseph B. and DeLorenzo, A. J.: "Fine Structural Localization of Acetylcholinesterase in the Olfactory Mucosa in Guinea Pig and Rabbit." Ann. Otol. Rhinol. Laryngol. 83:55-64, Jan.-Feb. 1974. Naufal, Pierre M. (See SCHUKNECHT, H. F.)

NIMS, Judith C., Irwin, J. W., Goodman, M. L. and Gambill, J. S.: "Proteins in Exudates of Experimental Otitis Media." J. Laryngol. Otol. 88:863-867, Sept. 1974.

Ota, Carol Y. (See KIMURA, R. S.)

Pappanikou, Angelo (See SCHUKNECHT, H. F.) Peake, William T. (See MULROY, M. J.)

SCHUKNECHT, Harold F., Kimura, R. S., Naufal, P. M., et. al.: "The Pathology of Sudden Deafness." Acta Otolaryngol. 76:76-97, Oct. 1973.

SCHUKNECHT, Harold F. and Wright, J. L.: "Pathology in a Case of Profound Congenital Deafness." J. Laryngol. Otol. 87:947-955, Oct. 1973.

SCHUKNECHT, Harold F., Goodman, M. L., Weber, A., Pappanikou, A. and Tolpin, D.: "Grand Rounds Massachusetts Eye and Ear Infirmary." Ann. Otol. Rhinol. Laryngol. 83:257-263, Mar.-Apr. 1974.

SCHUKNECHT, Harold F. and Kirchner, J. C.: "Cochlear Otosclerosis: Fact or Fantasy." Laryngoscope 84:766-782, May 1974.

SCHUKNECHT, Harold F.: Pathology of the Ear. Cambridge. Harvard Univ. Press. 1974. A Commonwealth Fund Book. xv. 503 pp. illus.

Schuknecht, Harold F. (See KIMURA, R. S., McCLERKIN, W. W.)

SKLANSKY, Bernard D., Jafek, B. W. and Wiernik, P. H.: "Otolaryngologic Manifestations of Acute Leukemia." Laryngoscope 84:210-230, Feb. 1974.

Sklansky, Bernard, O'CONNELL, M. J., Wiernik, P. H., et. al.: "Staging Laparotomy in Hodgkin's Disease. Further Evidence in Support of Its Clinical Utility." Am. J. Med. 57:86-91, July 1974.

SNYDER, Charles: "Clarence John Blake and Alexander Graham Bell. Otology and the Telephone." Ann. Otol. Rhinol. Laryngol. 83:Suppl. 13:1-32, Jul.-Aug. 1974.

Stewart, Terence J. (See BELAL, A.)

STROME, Marshall: "Cryosurgery: Complications in the Head and Neck." Trans. Am. Acad. Ophthalmol. Otolaryngol. 77:OR1372-1376, Sept.-Oct. 1973.

STROME, Marshall: "Acute Inflammations of the Larynx—A Rational Approach." J. Med. Assoc. Ga. 68:181-184, May 1974.

STROME, Marshall and Jaffe, B.: "Epiglottis—Individualized Management with Steroids." Laryngoscope 84:921-928, June 1974.

STROME, Marshall and Ferguson, C. F.: "Multiple Postintubation Complications." Ann. Otol. Rhinol. Laryngol. 83:432-438, Jul.-Aug. 1974.

Tolpin, Daniel (See SCHUKNECHT, H. F.)

Weber, Alfred (See SCHUKNECHT, H. F.)

WEISS, Alfred D.: "Central Vestibular Diagnosis Neurologic Examinations." Ann. Otol. Rhinol. Laryngol. 82:852-854, Nov.-Dec. 1973.

WEISS, Thomas F., Mulroy, M. J. and Altmann, D. W.: "Intracellular Responses to Acoustic Clicks in the Inner Ear of the Alligator Lizard." J. Acoust. Soc. Am. 55:606-619, March 1974.

Weiss, Thomas (See MULROY, M. J.)

WILSON, William R. and Toomey, J. M.: "Our Heritage of Words in Otolaryngology." Int. J. Health Serv. 53:4-10, Jan. 1974.

Wilson, William R., WATKIN, G. M., Lovett, E. J., et. al.: "Hyperoxia and the Red Cell—A Form of Oxygen-Toxicity." J. Surg. Res. 16:504-509, May 1974.

EMPLOYEE SERVICE AWARD RECIPIENTS

Over 25 Years of Service Miss Dorothy Landers, RN Mr. Raymond Lyons Mr. Philip Maguire Mrs. Hattie Roberts Miss Dorothy Campanella Miss Mollie Silverman Miss Anita Mangiaracine Miss Madeline S. Shipsey Miss Tyyne Lamsa, RN Miss Ruth Straitiff Miss Ellen McCarthy, RN

25 Years of Service
Mrs. Rita Lovely
Mrs. Dorothy A. Pearl
20 Years of Service
Mr. Anthony Bukowsky
Mrs. Charlotta Michalek

15 Years of Service Mrs. Ann Gately Mrs. Geraldine Jenkins, CRNA Mrs. Constance Montemarano

Mrs. Phyllis Paleo Mrs. Mildred Petrosky, RN Mrs. Wanda Pilarski Mr. Lehan R. Power Miss Olga Swanson, LPN Mrs. Katherine Tartis 10 Years of Service
Mrs. Marguerite Coughlin
Mrs. Ellen Davis, RN
Miss Jeanne Dupont, RN
Mrs. Hiwatha Glover
Miss Barbara LaPoint, RN
Mr. Robert Marshall
Miss Lucy Russell
Mr. Booker Smith, Jr.
Mrs. Katherine Stukin
Miss Blanche Wadman, RN
Mrs. Anne Weaver, LPN
5 Years of Service

5 Years of Service
Mrs. Concetta Anastasi
Miss Carmen Badwah
Miss Doris G. Bascomb
Mrs. Joseph Bellefontaine
Mrs. S. Myrna Benson
Miss Judith Black, RN
Mrs. Helen Cantwell
Mrs. Etelevena Clark
Miss Irene Cullin, RN
Miss Carol A. Cunniff
Mrs. Lena Dudley
Mrs. Kaira Dwyer
Mrs. Frances Gibbons
Miss Patricia Glavin

Mrs. Gael D. Greene

Mr. Edward James Mrs. Linda J. Jose Miss Mary Keefe, RN Miss Marcia Lake, RN Mrs. Ruth Lawrence Miss Joan Lebenbaum Miss Mary McCormick, RN Miss Bridget McDermott, RN Mrs. Loretta McLaughlin Eleanor Mobilia, M.D. Mr. Cary Noyes Miss Kathleen Pennaman, RN Miss Myrtle Perkins Mr. Calvin Phillips Mrs. Suzanne Posner Mrs. Hermin Richards Mrs. Rosanne Ring Miss Pamela Rowe Miss Zoe Sachpazidou Mrs. Maria Samayoa Mrs. Anna Sinagra Mr. Roger Spelta Miss Susan Sproviero Miss Mildred St. Hill Mrs. Mary Tassy, RN Miss Carolyn Wells, RN Mrs. Sheila Williams Miss Lorna Winding

Mr. James Hamill

VOLUNTEERS

Volunteer Recognition Day May 15, 1974
GUEST OF HONOR: Barbara J. Dawson
Consumer Advisor, Social Service Advisory Committee
Massachusetts Eye and Ear Infirmary, National Volunteer of the Year

Honor Roll
Mrs. Mark W. Adair
Miss Frances Benedict
Mrs. Edwin J. Carr
Miss Leah Cook
Mrs. Colin McA. Cunningham
Mrs. Ernest DiLorenzo
Mrs. Charles J. Innes
Mrs. Edith L. Lewis
Mrs. John Lowell

Mrs. Robert C. Meisel
Miss Florence Reid
Mrs. Phillips J. Roland, II
Mrs. Milton Rosenthal
Mr. Barry Sall
Mrs. Vincent Scanlon
Miss Ruth Shapiro
Mrs. Mildred Sullivan
Mrs. James I. Summers
Mrs. Kathryn Van Dernet
Miss Lydia Weare

Over 100 Hours of Service Miss Helen Baker Mrs. Malcolm B. Carsley Miss Claudia Di Folco Mrs. Rose F. Hurley Mr. Frederic McKinnon Mrs. Ichiro D. Okamura Mrs. Marguerite B. Roe

FORM OF BEQUEST

I give to the Massachusetts Eye and Ear Infirmary, a charitable organization, organized under the laws of Massachusetts, and situated at Boston, Massachusetts Dollars.

MASSACHUSETTS EYE & EAR INFIRMARY 243 CHARLES STREET BOSTON, MASS. 02114 Massachusetts
Eye and Ear Infirmary
243 Charles Street
Boston, Massachusetts 02114



Wherever the art of medicine is loved, there also is love of humanity . . . HIPPOCRATES

Mass.EvecEar Mass.EyecEar Mass. EvecEar Mass ecEar Mass. EyecEar Mass. Fred Early Law Every Francisco. ar Mass.EyecEar wars. EvecEar Wast.EyecEar Wast.Eyecear Wast.Eye Mass.EyecEar Mass.EyecTar Mass.EyecEar Mass.EyecTar Mass.Eyec ass.Eyen for Macs.Eyen for in lass, even learning ass. Eyen ear in ass horse for echar Mass. Evechar Mass. Evechar Mass. Evechar Mass. Evechar Ma Ear Mass, Excelear Mass, EyecEar Mass, EyecEar Mass EyecEar Mass. fair Weiss, Everyfor Mains, Everyfair Wass, Everyfair Mass, Everyfair Mass, Everyfair Mass, Ev Mass EvecFar Mass Excelar Mass Excellar Mass Exectlar Mass Eve lass EvecEnr Mass EvecEar Mass EvecEar Mass EvecEar Mass EvecEar Mass EvecEar Exectar Mass, Exectar Mass, Exectar Mass, Exectar Mass, Exectar N Car Mass. Evectar Mass. Evectar Mass. Evectar Mass. Evectar Mass. Evector Mass. ar Massi Eveg Ear Massi E Mass, Eyeg Ear Mass, Eveg Ear Mass, Eyeg Ear Mass, Eyeg Fair Mass, Eye ss. Eyeckar Mass. Eyeckar Mass. Eyeckar Mass. Eyeckar Mass. Eyeckar Eyectar Mass, Eyectar Mass, Eyectar Mass, Eyectar Mass, Eyectar vegear Mass Lycgefar Mass Evegefar Mass Evegefar Mass Evegefar Mas Ear Mass, Everglar Ma Mass, Every Ear Mass, Every fair Mass, Every Ear Mass, Every Fair Mass, Eve Mass Evectar Mass Evectar Mass Evectar Mass Evectar Mass Evectar Mass Evector Eventar Mass Evectar Mass Evectar Mass Exectar Mass Evectar offar Mass Evector Mass Evector Mass Evector Mass Evector Mass Evector Mass for Mass Exceller Mass Exceller Mass Exceller Mass Exceller Mass. air Mass. Every fair Mass. Eyerican Mass. Everyfair Mass. Everyfair Mass. Everyfair Mass. Ey Mass Evergear Mass Evergear Mass Evergear Mass Evergear Mass Evergear Mass Evergear es. Evectar Mass. Evectar Mass. Evectar Mass. Evectar Mass. Evectar Mass. Evectar Every fair Mass Every Ear Mass Every Mass Every Mass Every Ear Mass Every Ear Celear Mass Everelar Mass Everelar Mass Everelar Mass Everelar Mass Lot Massabweet for Mass Exection Mass Exection Massabsector Massab A Lass, Every for Mass, Exceptor Mass, Every Ear Mass, Exceptor Mass, Exlass. Every fair Mass. Excellar Mass. Every fair Mass. Exerct air Mass. Exerct eservices for Mass Experient Mass, Exceptar Mass, Exceptar Mass, Exceptar Mass, Exceptar

CONTENTS

REPORT OF THE CHAIRMAN AND PRESIDENT	2
REPORT OF THE DIRECTOR	4
REPORT OF THE CHIEF OF OPHTHALMOLOGY	6
REPORT OF THE CHIEF OF OTOLARYNGOLOGY	8
PORTRAIT OF A HOSPITAL-1975	10
COMPARATIVE STATISTICS	14
FINANCIAL STATEMENT	· 15
MEDICAL STAFF	22
PUBLICATIONS	26





On the front and back covers are shown two young patients in the Infirmary's Outpatient Department. The little girl on the front cover is having her ear examined, and the little boy on the back cover has just had an eye examination. They are among the more than 78,000 persons who visited the hospital's General Eye Service and ENT (ear, nose, throat) Clinic during 1975. The quotation on the cover is from the Hippocratic oath, the statement of ethics sworn by new physicians.

FROM THE CHAIRMAN AND PRESIDENT:

"Delivery of health care today is a difficult assignment with many pressures..."



Melville Chapin Chairman



William H. Claflin, III President

Another year of building. Another year of elevator shortage and consequent delays.

We thank all of you who have borne with us through the often trying circumstances of completing our new hospital.

And now it appears we will finish this major project in the Spring, as promised last year. We will welcome all of you who wish to visit us for a tour of the premises.

We are grateful to The Kresge Foundation for providing us with substantial funds for the Kresge Ambulatory Clinic which will be a tremendous addition in filling out our new hospital. Plans and total financing for this \$1.9 million project have been completed and construction will be finished in 1976.

Further plans for filling in shell space in the new wing will be made, and the task ahead is to secure the funds necessary for a number of such projects. With the Trustees and staff working together on this, we are sure it can be done.

Service by Trustees to our hospital is not always recognized to the extent desirable, and so we record here the resolutions made at our Annual Meeting, December 3, 1975, concerning five Trustees who retired in 1975 from the rolls after many years of devoted work on our Board:

RESOLVED: That the Massachusetts Eye and Ear Infirmary record at this Annual Meeting its deep gratitude to the following Trustees who, after years of devoted service, resigned during the past year:

Horace W. Frost, Trustee from 1940 to 1975

Amelia Peabody, Trustee from 1948 to 1975

Howland S. Warren, Trustee from 1951 to 1975

Frederick H. Lovejoy, Trustee from 1963 to 1975

The Board of Managers notes with appreciation that Mr. Frost, Miss Peabody and Mr. Lovejoy have agreed to continue their relationship with the Infirmary as Honorary Trustees.

RESOLVED: That the Massachusetts Eye an Ear Infirmary record at this Annual Meeting its special appreciation for a half-century of service as a Trustee by the Honorable Leveret Saltonstall, whose resignation we accept this evening with heartfelt regret. He has made at invaluable and lasting contribution to the Infirmary as he has to the country and the Commonwealth, and all who have been privileged to be associated with him are better for it. The Board of Managers is especially grateful that he will continue his long relationship with the Infirmary as an Honorary Trustee.

Officer changes as reported by the Chairman:

At the same meeting of the Board, our President Bill Claflin moved over to the office of Treasurer, having served as President for a number of years and hoping for a less demanding assignment. I suspect we will probably work him harder than he thinks. W are grateful to him for all the work he has done for this hospital over the last thirty years We are delighted that Robert C. Jordan, Executive Vice President of New England Mutual Life Insurance Company, and a Trustee since 1971, has accepted the office of Pres. ident. George M. Lovejoy, Jr. asked to be relieved from the duties of Vice President and has been replaced by Ephron Catlin (formerly) Treasurer). George will continue to head our Building Committee and as a Manager. I am much appreciative of all the help I receive from the Managers and Trustees.

Delivery of health care today is a difficult assignment with many pressures from various segments of our society. Cost is an ever present factor, and the elements thereof in an inflationary period are not generally appreciated or understood. We need all the imagination and cooperation of our Director and staff to achieve a balanced budget. Fortunately, we have much of both.

Our thanks to all who work with us at the Massachusetts Eye and Ear Infirmary and to our many loyal friends who give us their generous support each year.

Melville Olaphi William H. Claffei In

Seventy-six-year-old lintels from over the doors of the old Infirmary building have found a place below the front entrance of the New Infirmary, set into the concrete next to the glass main door on Fruit Street



REPORT OF THE DIRECTOR

It was hardly the setting you might expect for the 151st annual meeting of a world-famous medical institution. Bare light bulbs hung from the unfinished ceiling. Drapes were hung where walls should have been. Chairs scraped and footsteps echoed on the raw concrete floor.

But for those of us at the annual meeting of the Corporation last December, it was a grand setting indeed. As the first formal event to take place in the Phase II part of our building, it marked the beginning of the final "push" to complete the New Infirmary. Outside, there was a winter sunset over the Charles and Beacon Hill; inside there was the special shared warmth of people who have come down a long, tough road together.

This spring, appropriately enough, we will be able to open our front door on Fruit Street, with the new front lobby and, bless them, six new elevators. The cafeteria floor will be almost complete, and in fact we have already moved into the new serving area under the plexiglas "greenhouse" in our central courtyard. The 11th floor, which is half pediatrics and half adult, will also be opened through the Phase II section.

In a year of national anniversary, we will have special reason of our own to celebrate as we move into the second half of our second century.

We think we have taken an important step towards making hospital-care costs more equitable by developing an entirely new approach to accounting and billing. Historically, hospitals have charged for medical care by lumping all costs into an average figure and charging for medical services on a per-patient, per-day basis. This was reasonable enough when all patients received essentially similar services. But as medicine has advanced and distinctions between different kinds and levels of medical care have become more important. this traditional system has become less realistic in terms of reflecting the actual cost of delivering care to each patient. In effect, patients who require relatively little medical care have been subsidizing part of the costs incurred by those who require more care.

Under our new program, patient bil are split into three parts: a low daily room charge including room and board; a one-tim hospitalization charge; and a variable charge for the actual nursing care required. A major effort, developed in an intensive year-long cost-of-care study here, was the establishmen of a system for measuring direct patient care units of time. These "clinical workload units were derived by calculating the actual care required for various diagnoses or surgical procedures during each day of illness. This basic unit is now standard and patients are billed partially on the basis of the number of units required for their individual recoveries.

The new system was developed and refined during 1975, and early in 1976 Blue Cross of Massachusetts, Inc. and the Infirmate began a joint pilot program. Patients are now being billed under this new procedure.

In our outpatient services, the most outstanding event of the year was the final move of the old eye clinic to the new Gener Eye Service area. The General Eye Service encompasses a comfortable waiting area and unique eye examination rooms that incorporate the most up-to-date equipment and are arranged that they facilitate the teaching process.

Down the hall in our new building from the General Eye Service is the recently opened Retina Service, completed during 1975 and opened early in 1976.

A satellite outpatient admitting offic was opened on the second floor of the connecting building during 1975, and because of this patients of the ear, nose, and throat service can go through the entire admitting procedure on the same floor.

In the spring of 1975, our outpatient services joined with their opposite numbers a Massachusetts General Hospital and with members of Beacon Hill community organizations in a Beacon Hill Health Fair. More tha 300 residents of the community visited the Infirmary on a pleasant, sunny Saturday and were given check-up examinations in our eye and ENT services. Many made follow-up appointments as a result. It was the kind of

ent that dramatically pointed up our close ationship with the community in which we located. Similarly, much later in the year, Infirmary responded to the need of a Beam Hill community center, Hill House, by owing them to use our Nurses' Residence king lot for a benefit Christmas Tree sale. It the communities and the hospitals benefitstantially from such joint projects.

Full comparative statistics for the hosal's year can be found on page 14, and the lowing highlights from some key areas will

p round out the picture.

Although Emergency Ward and inbulatory Surgery visits were up substanly over the previous year, total outpatient its declined about one-and-one-half period. We feel certain that use of our outpaint facilities will grow after we open our new int door; the Infirmary will be a much easier ce to find and use.

Very close to the heartbeat of any spital is its nursing staff, and anyone who s ever been to the Infirmary as a visitor or a tient knows how dedicated and talented our rses are. Their particular concerns, of urse, are the quality of patient care and the sitivity with which patients are treated. aree years ago the American Hospital Assotion published a Patients' Bill of Rights that tes in effect that a patient has the right to pect certain standards and continuity of alth care from the health team. Our Nurs-Audit Committee has been hard at work ining and updating standards for each indilual patient condition to ensure that all tients receive consistently good care regards of the time of day or the unit to which ey are assigned. I am happy to report that have continued to make progress in this tical area and I feel that our hospital could Il serve as a model of an institution which s consistently striven to attain the best tient care possible.

While on the subject of nursing, it is orth noting that our efforts to involve tents in helping their children through hosalization continue to bear fruit. Last year number of parents staying overnight with

their children, and participating in their care, increased significantly.

Also vital to the success of patient treatment is the Anesthesia Department, whose physicians, nurse-anesthetists, and anesthesia aides participated in more than 10,600 surgical procedures during the year. In our specialties, and especially in surgery involving the neck and throat, the delivery of anesthesia can offer particular challenges requiring great skill. The high standards of our Anesthesia department reflect both dedication and the benefits of an ongoing intensive education program in which both physicians and nurses participate.

Detailed reports from our two specialty services, Ophthalmology and Otolaryngology, are contained in the following letters from the respective Chiefs of Service. It is the work of these two departments, both as medical staffs and faculties, that maintain the worldwide reputation of the Infirmary. It is my great pride as an administrator to be associated with these men and women and with the inestimable contributions they are making to health care.

Charles T. Wood

Charles 1. Wood
Director

"In a year of national anniversary, we will have special reason of our own to celebrate . . ."



REPORT OF THE CHIEF OF OPHTHALMOLOGY

The past year has seen greater changes at the Infirmary than in any other year. At last, the building program has progressed to allow for expanded outpatient facilities; new programs have taken form, and new personnel have been recruited. Thus we have already achieved a greatly strengthened hospital organization, but we have to anticipate what problems the future may bring in terms of clinical, academic, and social changes.

Clinical Services The construction of outpatient clinics has proceeded well, and the first phase of the General Eye Service was opened in February. This expansion meant a great relief from the unbearably crowded cir-



Two young patients in the Infirmary's Outpatient Department.

cumstances in the old Eye Clinic I, and the new facilities have greatly improved services to the patient and added greater comfort and privacy. Completion of the new Retina Service area early in 1976 meant an enormous improvement over the previous cramped quarters.

The medical staff and the residents have performed admirably in caring for a large number of patients in the clinics. The private practitioners have given very generously of their time and skill in this effort, and they

have, in addition, spent much of their time in the teaching of residents and students.

Teaching A teaching hospital has the serious responsibility of training residents post-residency fellows, and its own staff, as well as medical students. Twenty-two residents are involved in training at any one time, and they have fulfilled their duties very well. Dr. Dwight Cavanagh has assumed the Directorship of the residency program and hadrawn up a new program that should better meet future teaching demands. The duties of the residents have been enlarged and the teaching program quite markedly expanded.

In conjunction with Boston University Medical School and Tufts Medical School, a joint visiting professors program had been agreed upon, and some lectures will be common to the residents at the three medical schools. This should, in the long-run, avoid duplication of teachers and visiting professors and be of benefit to all the programs.

The Harvard Medical School's thirdand fourth-year students have been taught by Dr. Alfred Scott and his colleagues in the usual excellent manner. The Lancaster Course of Postgraduate Ophthalmology, which is sponsored by the Infirmary, has enjoyed continuing and increasing success. Dr. Henry Allen has made this course into what is probably the best post-graduate program of its kind in the world. The Harvard Basic Science Course, directed by Dr. Thomas Hutchinson, also continued to attract a large number of applicants.

An important teaching facility, the Sloane Teaching Room, has just been completed. Dr. Albert Sloane has raised money for this excellent teaching area, which is used for resident lectures, Harvard post-graduate courses, and sub-specialty conferences. These conferences are now being held every morning for the benefit of residents, fellows, and the Infirmary's medical staff, and they have been considerably expanded during the year.

The Infirmary's fellowship program continues to be strong and has in the past year become more academically oriented. More than 30 fellows are in training in the subspecialty fields at any one time, and the Infirmary is by far the most important teaching hospital for the training of such post-residence fellows.

Several members of the Infirmary's full-time and part-time staff have conducted extensive teaching activities out of town.

Nearly every course program around the country has one or more members of our staff

as guest panelists, and this is one of the most important ways for the Infirmary to show its standard of clinical care and research.

Research Eye research continued to flourish during the year in spite of cramped quarters in the Howe Laboratory. The research efforts have been directed primarily towards solutions in the field of glaucoma, cataract, neuro-ophthalmology, and bioengineering, but other topics have also been covered in depth. Two Ph.D. investigators have been added to the staff, Drs. Hong-Ming Cheng and Jack Greiner.

The new Berman-Gund Laboratory for the Study of Retinal Degenerations opened in November of last year, under the Directorship of Dr. Eliot Berson. Several able nvestigators have joined the laboratory, ncluding: Bruce Szamier, Ph.D., Ross Edwards, Ph.D., and Susan Schmidt, Ph.D. This laboratory is sponsored in part by the Retinitis Pigmentosa Foundation, and it will concentrate its initial efforts particularly cowards solving problems concerned with this distressing blinding disease.

A new fundraising program for expansion of the laboratory facilities has been nitiated, and funds have been secured for a central Electron-Microscopy Laboratory, which should be ready this summer.

Honors A few years ago, funds were raised for a tenured Professor of Ophthalmoogy at Harvard Medical School. Named the David Glendenning Cogan Professorship of Ophthalmology, it was first awarded to Dr. Morton Grant. This development has honored two close friends and collaborators.

Other kudos have been accorded durng the year to some members of the eye staff,
and these included Dr. Thomas Hutchinson's
election as President for the Massachusetts
cociety for the Prevention of Blindness, Dr.
Morton Grant's selection as President of the
New England Ophthalmological Society, Dr.
Chirley Wray's recent election to the prestigous Association of British Neurologists, and
Dr. Charles Beyer's election to the Ptosis
cociety.

Organization There have been several administrative changes in the Eye Departnent during the year. Dr. Charles Regan, who for many years served so well as clinical administrator, left in January to become rofessor and Chairman of the new Eye Department of the University of Massachuetts Medical School in Worcester. He was eplaced by Dr. Richard Thoft, who holds the itle of Assistant Chief of Ophthalmology. A

department of Pediatric Ophthalmology has been organized.

Dr. Karl Reimer retired in July after many years of distinguished service as Clinic Chief. He was replaced by Dr. Thomas Cronin. Also, Drs. Robert Brockhurst and Richard Simmons were added to the Board of Surgeons during the year. Dr. Irving Pavlo retired with the title of Senior Consulting Surgeon. Dr. Ian Constable left to become Professor and Chairman of Ophthalmology at Perth, Australia. The Eye Service has sadly acknowledged the deaths of two members of the staff this year: Dr. Linley Happ and Dr. Paul Runge. These colleagues gave very generously of their time and talent to the Infirmary and they will be sorely missed.

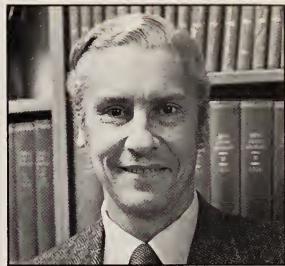
The Future The Infirmary has made remarkable strides during the past year but many problems remain. There is still a severe space shortage in many areas. We must continually plan and adjust for a future which may bring with it different attitudes and circumstances. Ours is a changing society with increasing demands from the public for well-insured private-type care for everybody. We hope that we can meet the challenges and be able to continue our traditional role as a community eye facility and a consultation center on a national and international basis. With



the new building and a dedicated staff, I'm sure that we can succeed and improve our position as the nation's leading eye center.

Class H. Dohlman M.D.

"The Infirmary has made remarkable strides during the past year ..."



Claes H. Dohlman, M.D.



(lower photo) Dr. Deborah Pavan-Langston, Director of the Infirmary Cornea Service, in 1975 became the first woman to receive the Research to Prevent Blindness/William Friedkin Scholars Award for her research toward development of a new drug that promises the first effective control of infection from two common types of Herpes virus that cause widespread corneal blindness and venereal disease.

(left) Patient (r) consults with members of medical staff in newly completed General Eye Service examining area.

REPORT OF THE CHIEF OF OTOLARYNGOLOGY

"Very little of what the otolaryngologist does today was done by his predecessors of forty years ago."



Harold F. Schuknecht, M.D.



(lower) Dr. Joseph B. Nadol, Jr., Assistant in Otolaryngology, is directing a research study on the causes of 'nerve deafness,' a hearing disorder that affects thousands, under a grant from the Deafness Research Foundation of New York City. The program centers on a systematic study of the human inner ear using the high resolving power of an electron microscope. Knowledge derived from such research could lead to improved treatment and possible cures for the disorder.

(opposite) An examination in the Infirmary's ENT

clinic

All in all, 1975 was an excellent year for the Department of Otolaryngology. The training program for medical students and house officers, the productivity of the research laboratories, and the outpatient clinical services have all thrived.

Teaching With the changing emphasis in medical education toward the training of the primary-care physicians, there has been an increased demand by Harvard Medical School students for ear, nose and throat education. Dr. William Montgomery and Dr. Ernest Weymuller, with the help of the younger members of the staff and the house officers, have developed an expanded curriculum to meet this need. Also, through the use of the emergency ward, the Department is participating with the Massachusetts General Hospital in the training of emergency-care physicians.

Research While clouds of despair continue to gather over federal funding for basic research, the several otolaryngology research laboratories continue to be viable. Fortunately, the various scientific review committees have given priority ratings for our research proposals which are adequate to compete successfully for funds. The Eaton-Peabody Laboratory of Auditory Physiology, which is conducted as a joint endeavor by the Infirmary and the Massachusetts Institute of Technology under the direction of Dr. Nelson Kiang, is again fully operant in its new home on the fourth floor of the hospital building.

The Ear Pathology Laboratory now has a collection of more than 1,000 human inner ears, all serially sectioned, stained and mounted for microscopic study. A book entitled *Pathology of the Ear*, published by Harvard University Press and released in November of 1974, is based on the pathological findings revealed by these specimens. The large and growing body of information generated by these studies will be of inestimable importance to research into the nature and courses of a variety of hearing disorders.

The emphasis of the Electron Microscopy Laboratory, under the direction of Dr. Robert Kimura, has shifted somewhat from studies of animal morphology to human ear pathology. Dr. Joseph Nadol is also engaged in these studies. In the Immunology laboratory, Dr. William Wilson is studying the effect of antigen therapy on the development of immunoglobulin. In the Microcirculatory laboratory, Dr. John Irwin is pursuing the nature of the vascular and cellular responses to inflammation, and in the Laryngology laboratory, Dr. William Montgomery continues his

studies on surgical techniques for the manage ment of stenosis or constriction of the larynx and trachea caused by trauma and disease, as well as related disorders.

Organization There have been some changes in the fulltime professional staff. Dr. Pierre Montandon has resigned to accept the Chairmanship of the Department of Otolaryngology at the University of Geneva, Switzerland. Dr. Terence Stewart has returned to practice in Belfast, Northern Ireland, and Dr. Richard Gacek has resigned to accept the Chairmanship of the Department of Otolaryngology at the University of Massachusetts Medical School, Worcester. Dr. Joseph Nadol has been named to replace Dr. Gacek. Dr. William Wilson has joined the fulltime staff to assume the directorship of a subspecialty department of medical otolaryngology with emphasis on otolaryngologic allergy. Dr. Alfred Weiss and Dr. Stephen Parker have resigned the fulltime staff to ente private practice but remain on the part-time staff and continue to direct the otoneurology clinic.

A special note of commendation is due our house officer staff. Their dedication to service and concern for the clinic patients, as well as the expert care and advice they provide the private patients of the active staff, is an enormous contribution to the effectiveness and prestige of this Institution.

One of the smoothest functioning subspecialty operations in Otolaryngology is the Department of Audiology under the direction of Rhoda Morrison. In addition to their large clinical service, they are assisting researchers at Bolt Beranek and Newman, Acoustical Consultants, in the development of improved methods for evaluating speech hearing capability in noisy environments.

"Otolaryngology"? In recent years, there has been much discussion in medical circles as to whether the term otolaryngology still appropriately describes our specialty. The last four decades have brought about a significant change in the scope of medical practice and consequently the type of medical skills required by the practitioner of this specialty. The classical otolaryngologist of the early part of this century spent much of his time providing surgical drainage for life threatening infections of the mastoids, sinuses, throat and neck. All that has been changed by antibiotics, immunizations, improved nutrition and better general health care. Today's otolaryngologist, while managing the occasional infection, is involved predominantly in tumor surgery and in plastic and reconstructive surgery of the head and neck. Today's otolaryngologist is a head and neck surgeon (excluding the eye and brain) and his scope ranges from delicate microscopic ear surgery to resection of arge tumors and from closure of cleft palates o facial plastic procedures. Very little of what he otolaryngologist does today was done by his predecessors of forty years ago. The lay public generally is not fully aware of this ltered scope of otolaryngology. It is not surrising either that there have been jurisdicional disputes with members of departments of plastic surgery, oral surgery and general surery. Nonetheless, the specialty is healthy and urviving, probably because the experience of ecades has generated for us a special knowledge of the anatomy and physiology of the head and neck and the tools and expertise to examine, diagnose and manage disorders in this difficult anatomical area. To avoid propagating the misconception of the scope of otolaryngology, the term may well have to be replaced with one more appropriate, and already, some institutions have incorporated the terms "plastic" and "maxillofacial reconstructive" surgery into their departmental titles.

Looking at the year in retrospect, we have gained a little here and lost a little there. but generally, we have fared well. As the new section of the hospital opens up next year, there will be new things to report and most of them will be good.

Harred & Schulsnecht

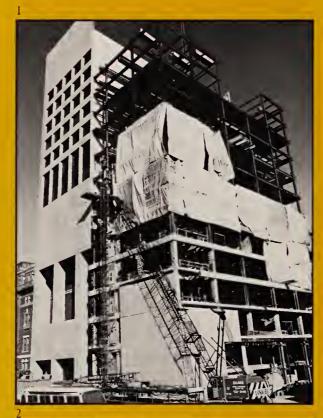
Harold F. Schuknecht, M.D.



PORTRAIT OF A HOSPITAL-1975

Early in the year, concrete had just started to rise over the steel skeleton of the Phase II part of the New Infirmary (1). A year later, (2) most of the work was inside the completed shell. Spring saw a widely attended Community Health Fair (3) at

the Infirmary and the opening of the Albert Sloane Teaching Room for Post-graduate Ophthalmology (4), named after Dr. Albert Sloane, Senior Consulting Surgeon in Ophthalmology (5). A majostep forward was the opening of the Gen







eral Eye Service (6) and (7), in the new building, replacing the previous crowded eye clinics. Another area of the new building that opened up was the Retina Service (8) where researchers are shown with an instrument used for measuring peripheral vision. Social highlight of the year was the 150th Anniversary Ball held at New City Hall (9), just yards away from the site of the original Infirmary in old Scollay Square. More than 700 employees and friends of the Infirmary attended the affair.

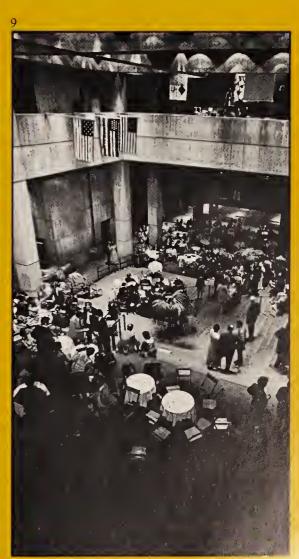








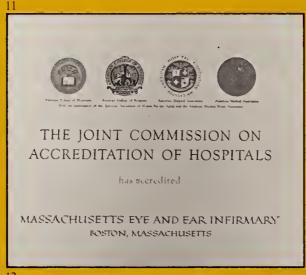




History was an everpresent topic during the hospital's sesquicentennial. Here (10) Dr. Moses Lurie, Senior Consulting Surgeon in Otolaryngology, examines early 19th century surgical instrument for removing adenoids under a portrait of Robert Gould Shaw, President of the Infirmary from 1835 to 1853. During the summer, the Infirmary received its formal accreditation (11) from the Joint Commission on Accreditation of Hospi-

tals following rigid inspections of the hospital and its medical procedures. Physicians on the Infirmary staff made numerous appearances on television new and public education programs during the year. Here, Dr. Harold Schuknecht, Chief of Otolaryngology, is interviewed a Boston TV special on hearing (12) and Dr. Arthur Boruchoff, Surgeon in Ophthalmology, (13) discusses vision problems on ABC's "AM America" show. Around the Infirmary, volunteers helped













make things easier for patients and visitors. Here, a "candystriper" is on duty in the Children's Unit (14) and Mrs. Robert Meisel and Mrs. John Lowell (15) of the Ladies Visiting Committee are in the LVC-run Gift Shop. The LVC held a highly successful Christmas Bazaar (16) in the 8th floor dining room in the fall. Shortly thereafter, the new serving area for the dining room was opened under a plexiglass dome in the near central court-

yard (17). The expanded dining room, largest public space in the building, also saw service at the annual Service Awards program (18) whose theme was "The Infirmary is People. Thanks.", and the annual meeting of the professional staff (19). At year's end, the 150th Annual meeting of the Corporation took place on the eighth floor of Phase II—the first formal event to take place in the new part of the building (20).











Fiscal 1974–1975		1975	1974
Inpatient Hospital (174 Beds)	Admissions:		
inputerit Prospius (11 Sew)	Eye Patients	6,564	6,733
	ENT Patients	4,270	4,088
	Total Admissions	10,834	10,821
	Operations:		
	By Eye House Staff	1,158	1,299
	By Eye Attending Staff	5,527	5,519
	Total Eye Operations	6,685	6,818
	By ENT House Staff	1,050	1,250
	By ENT Attending Staff	2,890	2,524
	Total ENT Operations	3,940	3,774
	Total Operations	10,625	10,592
	Discharges:	10,838	10,809
	Death	14	17
	Autopsies	7%	27%
	Patient Days	52,840	55,242
	Average Patient Census	145	151
	Average Length of Stay	4.88	5.11
	Bed Utilization Total Discharges	83% 10,838	89% 10,809
0		10,636	10,009
Outpatient Department	Eye Clinic	EC 524	60.006
	Total Eye Visits ENT Clinic	56,524	60,806
	Total ENT Visits	22,024	22,743
	Total OPD Visits	78,548	83,549
E		· · · · · · · · · · · · · · · · · · ·	
Emergency Ward	Eye Cases ENT Cases	18,929	17,612
		15,278	13,984
	Total	34,207	31,596
Minor Surgery	Eye Cases	2,190	2,131
	ENT Cases	1,555	1,324
	Total	3,745	3,455
Special Services	Audiology	9,164	9,334
	Electroretinography	550	445
	Fluorescein	2,498	1,905
	Otoneurology	329	742
	Ultrasonography	340	657
	Visual Function Studies	399	290
	Radiology (exams)	24,582	21,554
	Laboratories:		
	Eye Pathology (total Specimens)	2,675	1,307
	ENT Pathology (total Specimens)	3,698	3,180
	Clinical Laboratory (total procedures)	84,516	66,532
	Bacteriology (total cultures)	12,414	10,683

Bala	nce S	Sheet		
7 7		1 12	_	

Unrestricted Funds September 30, 1975

Current Assets			Current Liabilities		
Accounts Receivable	\$ 3,517,039		Current installments of		
Less Allowance for			long-term debt		\$ 245,227
doubtful receivables	444,190	\$ 3,072,849	Accounts payable		549,805
Investments, at cost (quoted			Reserves for unemployment		
market value \$854,197)		860,377	compensation and other contingencies		32,801
Inventories-at average cost		71,821	Accrued expenses		829,572
Prepaid expenses		138,718	Due to other funds (net)		1,039,350
Total current assets		4,143,765	Estimated contractual		2,007,000
			adjustments		310,912
			Total current liabilities		3,007,667
			Long-Term Debt, less current installment		9,454,227
			Equity in Undistributed Security Pool		(17,535)
			Fund Balances		
Other Assets			General operating fund	\$ 866,758	
Property, plant and equipment	28,347,129		Depreciation fund—		
Less accumulated			unrestricted	532,102	
depreciation	4,857,902	23,489,227	Plant fund	13,789,773	15,188,633
Total unrestricted funds		\$27,632,992	Total unrestricted funds		\$27,632,992

Statement of	Revenue and	Expenses
Sameanahan 20		-

September 30, 1975		
Patient Service Revenue		\$16,666,801
Adjustment to Patient Revenue for uncollectible accounts, free care and contractual allowances		1,344,750
Net Revenue Service to Patients Other Operating Revenue (including \$3,196,582 from		15,322,051
Research and other Specific Purpose Funds)		4,211,134
Total Operating Revenue Operating Expenses:		19,533,185
Patient Services (including depreciation)	\$16,480,572	
Research and other Specific Purpose Direct Expense	3,196,582	19,677,154
Hospital Net Loss from Operations		143,969

Income from Investments	\$ 875,42
Gifts and Bequests Donated Income—Various Estates	885,50 427,15 \$ 2,188,09

D. L Chara			
Restricted Funds September 30, 1975			
Specific Purpose Funds		Equity in undistributed	
Cash	\$ 1,706,416	security pool gains	\$ (78,348)
Due from other funds (net)	1,155,208	Fund balances	
Investments at cost (quoted		Special purpose	1,479,001
market value \$1,156,963)	1,165,716	Temporary	814,848
		Unexpended restricted income	704,944
		Depreciation—restricted	1,106,895
	\$ 4,027,340		\$ 4,027,340
Building Fund Cash Certificate of Deposit Construction in progress	\$ 46,088 — 9,225,800	Mortgage payable to banks—secured Accounts payable Due to other funds Accrued interest	3,883,748 426,389 115,858 14,985
		Fund balance	4,440,980 4,830,908
	\$ 9,271,888		\$ 9,271,888
Endowment Funds		Equity in undistributed	
Cash	49,360	security pool gains Fund balances	\$ 3,810,606
Investments, at cost (quoted market value \$13,414,732)	12 506 144	Income restricted	1,616,861
market value ψ15, ₹14, (52)	13,506,144	Income unrestricted	8,128,037
	\$13,555,504		\$13,555,504

TRUSTEES

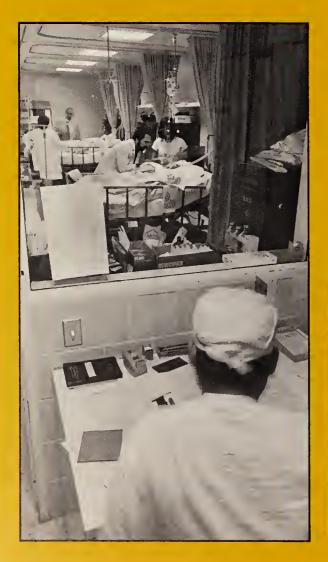
1925 Hon. Leverett Saltonstall	1957 Hon. William L. Saltonstall	1970 Ephron Catlin, Jr.
-honorary	1963 Thomas B. Frost	1970 Mrs. Frederick S. Moseley, III
1934 Robert F. Bradford	1963 John S. Howe	1970 Mrs. Frederick R. H. Witherby
1935 William A. Parker	1963 Frederick H. Lovejoy-honorary	1971 Avram J. Goldberg
1940 Mrs. Richard Cary Curtis	1965 George M. Lovejoy, Jr.	1971 Frank L. Harrington, Jr.
1940 Horace W. Frost-honorary	1965 Mrs. John Lowell	1971 Robert C. Jordan
1943 Frederick Winthrop-honorary	1965 Frederick C. Rozelle, Jr.	1971 Mrs. Robert C. Meisel
1945 Mrs. Sullivan A. Sargent	1966 Francis S. Hill	1971 Robert D. Williams
1947 William H. Claflin, III	1966 Robert Bacon	1972 Matthew J. Burns
1948 August R. Meyer	1966 James I. Summers	1972 Leo H. Daley
1948 Miss Amelia Peabody–honorary	1966 Leo F. Daley, Sr.	1972 Mrs. William P. Ellison
1951 Hon. Francis W. Hatch, Jr.	1967 Paul A. Chandler, M.D.	1972 Richard Harte
1951 George L. Pew ¹	1967 Edwin B. Dunphy, M.D.	1973 Dominic P. DiMaggio
1951 Howland S. Warren ²	1967 Mrs. Bartlett Harwood	1973 J. Frank Gerrity
1951 Melville Chapin	1967 John M. Lord	1973 Robert T. P. Storer, Jr.
1951 Henry K. Porter	1967 LeRoy A. Schall, M.D.	1973 Frederick G. P. Thorne
1952 George A. McLaughlin, Sr.	1967 William F. Spang	1974 Bruce A. Beal
1953 Mrs. Varaztad H. Kazanjian	1967 Monte J. Wallace	1974 William C. Mercer
1955 Richard P. Chapman	1968 Colin McA. Cunningham	1975 Bernard R. Baldwin
1955 William Ehrlich	1968 W. Clement Stone-honorary	1975 Edward Reynolds, Jr.
1955 Weston Howland, Jr.	1969 Richard W. Young, Ph.D.	1975 William Salatich

¹Deceased ²Resigned, 1975



BOARD OF MANAGERS COMMITTEES

Melville Chapin, Chairman
Robert C. Jordan, President
Ephron Catlin, Jr., Vice-President
William H. Claflin, III, Treasurer
Mrs. John Lowell, Secretary
Very Reverend Edward J. Carney,
O.S.A.*
Mrs. Richard Cary Curtis
Avram Goldberg
George M. Lovejoy, Jr.
George A. McLaughlin, Sr.
August R. Meyer
William A. Parker
Henry K. Porter
Gustave M. Solomons*
James I. Summers





EXECUTIVE

Robert C. Jordan, Chairman Ephron Catlin, Jr. Melville Chapin William H. Claflin, III Claes H. Dohlman, M.D. Robert H. Lofgren, M.D. George M. Lovejoy, Jr. Mrs. John Lowell George A. McLaughlin, Sr. Harold F. Schuknecht, M.D. Porter H. Smith, M.D. Charles T. Wood

MEDICAL STAFF EXECUTIVE

Robert H. Lofgren, M.D., Chairmar Claes H. Dohlman, M.D.
George E. Garcia, M.D.
B. Thomas Hutchinson, M.D.
Roy A. Johnson, M.D.
Joseph C. Kim, M.D.
Thomas R. Klein, M.D.
Harold F. Schuknecht, M.D.
Richard J. Simmons, M.D.
Porter H. Smith, M.D.
John C. Trakas, M.D.
Melville Chapin
Charles T. Wood

^{*}appointed by the Commonwealth

FINANCE

Robert C. Jordan Melville Chapin William H. Claflin, III

3UILDING SUBCOMMITTEE

George M. Lovejoy, Jr., Chairman Melville Chapin Mary Louise Davis Trank L. Harrington, Jr. Robert C. Jordan Raymond W. Lyons Charles T. Wood

HUMAN STUDIES

Robert Williams, Chairman
Max L. Goodman, M.D.
W. Morton Grant, M.D.
Robert S. Kimura
Ralph G. Meader, M.D.
Harold F. Schuknecht, M.D.
Richard A. Thoft, M.D.
Robert T. P. Storer
Charles T. Wood
Margery Goldman

LIBRARY COMMITTEE

Henry A. Allen, M.D., Chairman Douglas Bryant Richard Dallow, M.D. Claes H. Dohlman, M.D. Edwin B. Dunphy, M.D. Richard Gacek, M.D. B. Thomas Hutchinson, M.D. John W. Irwin, M.D. Robert S. Kimura Moses H. Lurie, M.D. Thomas Mulvaney, M.D. Harold F. Schuknecht, M.D. Charles Snyder. Secretary and Librarian Richard A. Thoft, M.D. James R. Hamill

ARCHIVES

Charles Snyder, Chairman and Archivist Moses H. Lurie, M.D. Francis J. West, M.D. Charles T. Wood

SALARY

Robert C. Jordan Melville Chapin William H. Claflin, III Charles T. Wood

PERSONNEL AND PENSION

Henry K. Porter, Chairman Melville Chapin J. Antony Lloyd Anthony P. Reis George A. McLaughlin, Sr. Charles T. Wood

SOCIAL SERVICE ADVISORY

Henry K. Porter, Chairman Mrs. Malcolm Carsley Mrs. Barbara Corey, RN Robert Danahy Mrs. Barbara J. Dawson Ruth Farrisey, RN James R. Hamill James Hardey, M.D. Mrs. Edgar Kent Mrs. John Lowell Moses H. Lurie, M.D. David Newsome, M.D. Miss Kathleen O'Donoghue Miss Madeline S. Shipsey Richard A. Thoft, M.D. Alfred D. Weiss, M.D. Charles T. Wood

ACCREDITATION

Charles T. Wood, Chairman August R. Meyer Francis S. Hill Ms. Margarete L. Arndt Harold F. Schuknecht, M.D. Claes H. Dohlman, M.D. Robert Lofgren, M.D. Barbara Corey, RN Porter H. Smith, M.D. Herbert Kirshnit James R. Hamill Raymond W. Lyons Alfred Weiss, M.D. Ms. Joyce Gormley Ms. Barbara Houtman Max L. Goodman, M.D. Taylor Smith, M.D. John Webb Charles Snyder Alfred Weber, M.D. Ms. Madeline Shipsey Ms. Margery Goldman

DirectorCharles T. Wood

Assistant to the Director Margery Goldman

Associate Director for Administrative Services Anthony P. Reis

Associate Director for Clinical Services
James R. Hamill

Associate Director for Hospital Services Raymond W. Lyons

Director of DevelopmentRobert J. Vetter

Director of Nursing Services Barbara E. Corey, R.N.

Director of Patient Services
Margarete L. Arndt

Director of Personnel and Public Relations
J. Antony Lloyd

Building ServicesJohn Douglas, Director

Dietary ServicesHerbert Kirshnit, Director

Maintenance Services
Robert Marshall, Director

Medical Records
Barbara Houtman, Director

Operating RoomsEvelyn Brewster, RN, Director

Outpatient Department
Edward J. Stockman, Jr.,
Administrator
Carol Stearns,
Chief OPD Admitting Officer

Patient Services
Ruth Dorfman, R.N.,
Manager of Admitting
Mary Louise Davis,
Manager of Scheduling

Personnel Ruth Ann Moriarty, Manager Purchasing and Stores
Lehan Power, Director
Social Services
Madeline Shipsey, Director
Volunteer Services

Rosanne Ring, Director



EXECUTIVE COMMITTEE 1975–1976

Mrs. John Lowell, Chairman

Mrs. James I. Summers, First Vice-Chairman

Mrs. Robert F. Kurtz, Second Vice-Chairman

Mrs. Harold F. Schuknecht,

Treasurer

Mrs. John B. Eliot, Recording Secretary

Mrs. Calvin A. King, Corresponding Secretary

Mrs. Henry F. Allen

Mrs. Malcolm B. Carsley

Mrs. Edgar H. Kent

Mrs. Henry Lyman, Jr. Mrs. Ichiro D. Okamura

Mrs. Robert C. Meisel,

Immediate Past Chairman

Mrs. James M. Hardy, Chairman Distaffers

MEMBERS

Mrs. Henry F. Allen

Mrs. Maurice Berlin

Mrs. C. J. Boulris

Mrs. Harry E. Braconier

Mrs. Edwin J. Carr

Mrs. Malcolm B. Carsley

Mrs. Richard B. Chapman

Mrs. Colin McA. Cunningham

Miss Winifred Cunningham

Mrs. Richard C. Curtis*

Mrs. Leo F. Daley

Mrs. Richard Dallow

Mrs. Claes-Henrik Dohlman

Mrs. David D. Donaldson

Mrs. Edgar Driscoll, Jr.

Mrs. Edwin B. Dunphy Mrs. Howard M. Ecker

Mrs. John B. Eliot

Mrs. William Ellison

Mrs. Maxwell Fish

Mrs. Albert R. Frederick, Jr.

Mrs. Richard R. Gacek

Mrs. Avram J. Goldberg

Mrs. William L. Hayden

Mrs. Ralph Hinckley

Mrs. Alfred L. Hurst

Mrs. Charles J. Innes

Mrs. Victor H. Kazanjian

Mrs. Edgar H. Kent Mrs. Calvin A. King

Mrs. Herbert Kirshnit

Mrs. Thomas R. Klein

Mrs. Robert E. Klotz Mrs. Arnold I. Kroll

Mrs. Arnold J. Kroll Mrs. Robert F. Kurtz

Mrs. Clarence E. Kylander

Mrs. Charles A. Lane

Mrs. John Lowell

Mrs. Henry Lyman, Jr.

Mrs. Alexander S. Macmillan, Jr.

Mrs. Loretta McLaughlin

Mrs. J. Wallace McMeel

Mrs. Robert C. Meisel*

Mrs. G. Gardner Monks

Mrs. William Montgomery

Mrs. Henry A. Mosher

Mrs. I. D. Okamura

Mrs. Grafton Perkins

Mrs. Silvio von Pirquet

Mrs. Charles D. I. Dagge

Mrs. Charles D. J. Regan

Miss Florence Reid

Mrs. Karl Riemer

Mrs. Aram Roopenian

Mrs. Milton Rosenthal

Mrs. Perry Rosenthal

Mrs. Baruch Sachs

Mrs. Charles L. Schepens

Mrs. Harold F. Schuknecht

Mrs. David H. Scott

Mrs. Earl S. Seale

Mrs. Samuel Simons

Mrs. William A. Slade, Jr.*

Mrs. Albert E. Sloane

Mrs. Taylor R. Smith

Mrs. James I. Summers

Mrs. Frederick G. P. Thorne

Miss Lydia Weare

Mrs. Donald R. Weis

Mrs. Lyon Weyburn

Mrs. Henry E. Wile

Mrs. Robert D. Williams

Mrs. Frederick R. W. Witherby

HONORARY MEMBERS

Mrs. John Ring

Mrs. Henry Peabody*

Mrs. James M. Hardy,

Distaffer Chairman

ASSOCIATE MEMBERS

Mrs. Richard P. Breed, Ir.

Mr. and Mrs. Elliot W. Brown

Mrs. Mortimer L. Cashman

Mrs. William Endicott, II

Mrs. James P. Fenn

Mrs. Warren D. Haley

Mrs. John Hand

Mrs. John R. Haug

Mrs. J. J. Hindon Hyde

Mrs. Erick Kauders

Mrs. Leonard B. Kilgore

Mrs. Thomas H. Lanman

Mrs. John C. G. Loring

Mrs. Malcolm H. Masters

Mrs. Israels T. McGrath

Mrs. Joseph T. McGrath

Mrs. Lawrence Meyns, Jr.

Mrs. George R. Minot

Mrs. Charles F. Nayor

Mrs. Richard C. Norton

Mrs. Joseph F. O'Connell

Mrs. Emerson T. Oliver

Mrs. Winthrop E. Sears

Mr. and Mrs. Andre R. Sigourney

Mrs. C. Fred Smith, Jr.

Mrs. Gerard B. Townsend

Mrs. Lewis L. Wadsworth

Mr. and Mrs. Thomas J. Walsh

Miss Agnes Wheeler

Mrs. Evelyn G. Whiton Mrs. Royal C. Wilson

^{*}Past Chairman

OPHTHALMOLOGY

Active Staff

Chief of Ophthalmology Claes H. Dohlman, M.D.

Assistant Chief of Ophthalmology Richard A. Thoft, M.D.

Surgeons in Ophthalmology
S. Arthur Boruchoff, M.D.
Robert J. Brockhurst, M.D.
Thomas P. Cronin, M.D.
Claes H. Dohlman, M.D.
W. Morton Grant, M.D.
Alfred W. Scott, M.D.
David H. Scott, M.D.
Richard J. Simmons, M.D.
Taylor R. Smith, M.D.
Richard A. Thoft, M.D.

Associate Surgeons in Ophthalmology

Lloyd M. Aiello, M.D. Richard B. Chapman, M.D. David D. Donaldson, M.D. H. MacKenzie Freeman, M.D. Carl G. Freese, M.D. Stephen J. Fricker, M.D. John R. Gehring, M.D. Warren D. Halev, M.D. B. Thomas Hutchinson, M.D. Robert C. Lawlor, M.D. Byron S. Lingeman, M.D. J. Wallace McMeel, M.D. Ichiro D. Okamura, M.D. George M. Olive, M.D. Baruch J. Sachs, M.D. Michael Wiedman, M.D.

Assistant Surgeons in Ophthalmology

Eliot L. Berson, M.D. Charles K. Beyer, M.D. John M. Carroll, M.D. Eugene C. Ciccarelli, M.D. Albert R. Frederick, Jr., M.D. Alexander R. Gaudio, M.D. George E. Garcia, M.D. Ralph H. Hinckley, M.D. Roland E. Houle, M.D. Joseph C. Kim, M.D. Mohandas M. Kini, M.D. Arnold J. Kroll, M.D. Joel Arthur Kraut, M.D. Brent W. Lambert, M.D. Deborah Pavan-Langston, M.D. Eeva-Liisa Martola, M.D. David Miller, M.D. .

Joseph Michon, M.D.
Robert A. Petersen, M.D.
Silvio R. von Pirquet, M.D.
Roland C. Pruett, M.D.
Richard M. Robb, M.D.
Perry Rosenthal, M.D.
John G. Sebestyen, M.D.
Harvey H. Slansky, M.D.
David S. Walton, M.D.
Donald R. Weis, M.D.

Assistants in Ophthalmology

Robert A. Bellows, M.D. Don Carl Bienfang, M.D. Chester J. Boulris, M.D. lack F. Bowers, M.D. David G. Campbell, M.D. H. Dwight Cavanagh, M.D. Robert B. Cook, M.D. Leo T. Chylack, M.D. Richard L. Dallow, M.D. Frederick John Elsas, M.D. Gault M. Farrell, M.D. Elliot M. Finkelstein, M.D. Richard P. Floyd, M.D. James M. Gordon, M.D. Robert A. Gorn, M.D. Evangelos S. Gragoudas, M.D. David S. Greenseid, M.D. Arthur S. Grove, M.D. David A. Hill, M.D. Tatsuo Hirose, M.D. David S. Hutchison, M.D. Barry H. Jacobs, M.D. Eric H. Johnson, M.D. Jay H. Kaufman, M.D. Robert T. Lacy, M.D. James R. Lee, M.D. Ernst J. Meyer, M.D. Paul E. Michelson, M.D. Peter B. Mooney, M.D. Edward Murphy, Jr., M.D. Roger V. Ohanesian, M.D.* David G. Perkins, M.D. Donald W. Putnoi, M.D. Edward S. Rvan, M.D. Kenneth A. Stampfer, M.D. Felipe I. Tolentino, M.D. Daniel W. Tolpin, M.D. Clement Trempe, M.D. Paul F. Vinger, M.D. George A. Violin, M.D. Shirley H. Wray, M.D. (Neuro-Ophthalmology)

Associate Staff
John F. Griffin, M.D.*

Consulting Chiefs of Ophthalmology Henry F. Allen, M.D. Paul A. Chandler, M.D.

David G. Cogan, M.D. Edwin B. Dunphy, M.D. Charles D. J. Regan, M.D.

Senior Consulting Surgeons in Ophthalmology

D. Robert Alpert, M.D. William P. Beetham, M.D. Harry E. Braconier, M.D. Virgil G. Casten, M.D. Joseph M. Clough, M.D. Mahlon T. Easton, M.D. Trygve Gundersen, M.D. Carl C. Johnson, M.D. Brandon D. Leahev, M.D. Sumner D. Liebman, M.D. Henry A. Mosher, M.D. Irving L. Pavlo, M.D. Abraham Pollen, M.D. Karl Riemer, M.D. Charles L. Schepens, M.D. Earl S. Seal, M.D. Albert E. Sloane, M.D. Garrett L. Sullivan, M.D. Francis I. West, M.D.

Senior Consulting Ophthalmic Pathologist Parker Heath, M.D.

HONORARY STAFF

Associate Surgeons in Ophthalmology Frederick B. Breed, M.D. John M. Hill, M.D. Charles H. MacLaughlin, M.D.

Assistant Surgeons in Ophthalmology Julian F. Chisholm, M.D. Paul D. Hurley, M.D. Robert Kinder, M.D. Arthur M. Morrissey, M.D. Bertha Offenbach, M.D. *L.O.A. **SERVICES**

General Eye Clinic Richard A. Thoft, M.D., Acting Director

Emergency Room Arthur Grove, M.D., Director

Glaucoma Consultation Service W. Morton Grant, M.D., Director

Cornea Service

Deborah Pavan-Langston, M.D., Director

Ocular Motility Service Stephen J. Fricker, M.D., Director

Ophthalmic Pathology
Taylor R. Smith, M.D., Director

Pediatric Service David Walton, M.D., Director

Retina Service Robert Brockhurst, M.D.,

Acting Director

Neuro-Ophthalmology

Service Shirley H. Wray, M.D., Director

Resident Training
H. Dwight Cavanagh, M.D.,
Director

Clinical Fellows in Ophthalmology Retina Service

Francis E. Cangemi, M.D.
Rendato Dias Cardozo, M.D.
Howard B. Cohen, M.D.
Jaime V. Lapus, M.D.
Cheraphat Lopansri, M.D.
Donald F. Naegele, M.D.
Leo Masciulli, M.D.
Jo Bernice Rosen, M.D.
Yvon Tardif, M.D.
Anthony E. Tzobanakis, M.D.
Matthew C. Ziemianski, M.D.

Cornea Service

Mark B. Abelson, M.D.
William C. Albert, M.D.
Peter Donshik, M.D.
Charles S. Foster, M.D.
Mitchell H. Friedlaender, M.D.
Richard North, M.D.
James T. Patten, M.D.

Glaucoma Service William P. Boger, M.D. David Dueker, M.D.

David Lee Epstein, M.D. Richard Lee Kimbrough, M.D. William H. Ryan, M.D. Martin Wand, M.D.

OTOLARYNGOLOGY

Active Staff

Neuro-Ophthalmology

ohn F. Griffin, M.D. Eye Pathology

Kjell Dahlen, M.D. Peter M. Holland, M.D. esse Sigelman, M.D.

Fraining Grant Program

Bruce R. Cassidy, M.D. ack V. Greiner, Ph.D. Aohammad Z. Wafai, M.D.

Plastic Surgery Roger Kohn, M.D.

Residents

Maida P. Antigua, M.D. Ann M. Bajart, M.D. Charles D. Belcher, M.D. rank G. Berson, M.D. Jorman Blair, M.D. Stephen R. Depperman, M.D. Steven Feldon, M.D. hilip J. Harris, M.D. aul L. Gunderson, M.D. ohn Madigan, M.D. David Newsome, M.D. aul E. Pataky, M.D. harles T. Post, M.D. awrence I. Rand, M.D.

Jeil Silbermann, M.D. Stephen Sinclair, M.D. Stephen Sullivan, M.D. ohn Thomas, M.D.

heodore Renna, M.D.

homas M. Richardson, M.D.

Pean J. Yimoyines, M.D. Marc C. Yoshizumi, M.D.

Research Fellows

Hong-Ming Cheng, PhD. Elbert Magoon, M.D.

NEW ENGLAND EYE BANK

Maryellen McEvoy, xecutive Director . Arthur Boruchoff, M.D.,

Medical Director

Executive Committee

ules L. Baum, M.D. Mrs. Richard Cary Curtis Claes H. Dohlman, M.D. eonard S. Gottleib, M.D. Brendan D. Leahey, M.D. Howard M. Leibowitz, M.D. Robert E. Scully, M.D. Mrs. William A. Slade, Jr.

Chief of Otolaryngology

Harold F. Schuknecht, M.D.

Surgeons in Otolaryngology

William L. Hayden, M.D. Alfred L. Hurst, M.D. Robert E. Klotz, M.D. Donald K. Lewis, M.D.¹ Robert H. Lofgren, M.D. John E. McKeigue, M.D. William W. Montgomery, M.D. Harold F. Schuknecht, M.D.

Associate Surgeons in Otolaryngology

Yale J. Berry, M.D. Allan G. Edwards, M.D. Richard R. Gacek, M.D. C. Edward Jackson, M.D. Roy A. Johnson, M.D. Donald G. Keamy, M.D. Thomas R. Klein, M.D. John M. Kurkjian, M.D. Clarence E. Kylander, M.D. Rufus C. Partlow, M.D. John C. Trakas, M.D.

Assistant Surgeons in Otolaryngology

David D. Burtner, M.D. Robert V. Cheren, M.D. Robert P. Cipro, M.D. Charles W. Cummings, M.D.² Richard L. Fabian, M.D. Carl M. Lieberman, M.D. Jon B. Liland, M.D. Joseph A. Moretti, M.D. David L. Pierce, M.D. Marshall Strome, M.D. Albert Weiser, M.D. Ernest A. Weymuller, M.D. William R. Wilson, M.D.

Assistants in Otolaryngology

Howard M. Ecker, M.D.³ Edward I. Glinski, M.D. Edward E. Jacobs, M.D. Elv A. Kirschner, M.D. William G. Lavelle, M.D. David M. Metzner, M.D. (LOA) Thomas J. Mulvaney, M.D. Joseph B. Nadol, M.D. Angelo Pappanikou, M.D. Stephen Parker, M.D.⁴ Stephen A. Smith, M.D.

Alfred D. Weiss, M.D.⁴

Subdivision of Plastic Surgery

Richard L. Fabian, M.D. Plastic Service Chief, Assistant Surgeon in Otolaryngology Howard M. Ecker, M.D. Assistant in Plastic Surgery

Subdivision of Otolaryngologic **Pathology**

Max L. Goodman, M.D., Director

Tumor Clinic

Charles W. Cummings, M.D., Director

Endoscopy Service

William W. Montgomery, M.D., Director

Esophageal Voice Classes Ann Volk, Director

Audiology

Rhoda K. Morrison, Chief Audiologist

Consulting Chief of Otolaryngology

LeRoy A. Schall, M.D. Senior Consulting Surgeons in

Otolaryngology Walter J. E. Carroll, M.D. Charles J. Drooker, M.D. Carl H. Ernlund, M.D. Maurice G. Evans, M.D. John R. Frazee, M.D. Robert L. Goodale, M.D. Edgar M. Holmes, M.D. Moses H. Lurie, M.D. Daniel Miller, M.D. John R. Richardson, M.D.

Aram Roopenian, M.D.

Sidney R. Wilker, M.D.

Bernard Zonderman, M.D.

Associate Surgeons in Otolaryngology Charles Kent, M.D. Herman J. Sternstein, M.D.

HONORARY STAFF

Assistant Surgeon in Otolaryngology

Elizabeth DeBlois, M.D.

Assistant in Otolaryngology Frank W. Brady, M.D.

ASSOCIATE STAFF Associate Surgeons in Otolaryngology

Werner D. Chasin, M.D. Robert Wayne Clubb, M.D.⁵

Residents in Otolaryngology

Barry Benjamin, M.D. William S. Fisher, III, M.D. Victor M. Gotay-Rodriguez, M.D. Charles Gruenwald, Jr., M.D. Paul E. Hammerschlag, M.D. James M. Hardy, M.D. James Kelly, M.D. Bruce H. Klenoff, M.D. Richard M. Levinson, M.D. David E. Nash, M.D. Edward J. Reardon, M.D. Donald P. Shapiro, M.D. Bernard D. Sklansky, M.D. Howard G. Smith, M.D. Jerome Sugar, M.D. Michael Zoller, M.D.

⁵Medical Otolaryngology only



¹Deceased, December, 1975

²Resigned, December, 1975

³ Plastic Surgery only

⁴Otoneurology only

DEPARTMENT OF ANESTHESIOLOGY

Chief of Anesthesiology Porter H. Smith, M.D.

Anesthesiologist Jin Woo Kim, M.D.

Associate Anesthesiologist John V. Donlon, M.D.

Assistant Anesthesiologists Audrey A. Lewis, M.D. Eduardo Mancini, M.D.

Assistants in Anesthesiology Harry R. Frohberg, M.D. Thomas J. Keenan, M.D. Ismail S. Sensel, M.D. Dae Ik Sonn, M.D.

Assistants in Anesthesiology, (Part-time) Clifton W. Emerson, M.D. Malcolm J. Heslop, M.D. Peter R. Silverstein, M.D.

DEPARTMENT OF RADIOLOGY Chief of Radiology Alfred L. Weber, M.D.

Radiologist Alexander S. MacMillan, Jr., M.D.

Associate Radiologist Kiyokazu J. Momose, M.D.

Assistant Radiologist Jeanne Keller, M.D.

Consultants in Radiotherapy Milford D. Schulz, M.D. Herman D. Suit, M.D. Chiu-Chen Wang, M.D.

INTERNAL MEDICINE
Richard A. Field, M.D., Consultant
Gerald J. Doyle, M.D.

MICROBIOLOGY Microbiologist Anita Mangiaracine, A.B.

CLINICAL LABORATORY
Supervisor

Janis Avallone LaRosee

The members of the medical staff of the Massachusetts General Hospital are consultants to the Infirmary, and in this capacity become a part of the consulting staff of the Massachusetts Eye and Ear Infirmary.

DEPARTMENT OF OPHTHALMOLOGY

Howe Laboratory of Ophthalmology Claes H. Dohlman, M.D., Director

W. Morton Grant, M.D. David D. Donaldson, M.D. Stephen J. Fricker, M.D. Shirley H. Wray, M.D. Leo T. Chylack, Jr., M.D. Don C. Bienfang, M.D. David G. Campbell, M.D. Donovan J. Pihlaja, Ph.D. Jack Greiner, Ph.D. Hong-Ming Cheng, O.D., Ph.D. David K. Dueker, M.D. John F. Griffin, M.D. David Epstein, M.D. Martin Wand, M.D. Cecil K. Drinker, A.B. Charles J. Snyder, Librarian

Berman-Gund Laboratory for the Study of Retinal Degenerations

Eliot L. Berson, M.D., Director R. Bruce Szamier, Ph.D. Susan Y. Schmidt, Ph.D. Ross B. Edwards, Ph.D. Michael A. Sandberg, Ph.D. Jo Bernice Rosen, M.D.

Research Associates in Ophthalmology Charles E. Riva, D.Sc. Ernst G. Wolf, Ph.D.

DEPARTMENT OF OTOLARYNGOLOGY

Eaton Peabody Laboratory of Auditory Physiology

Nelson Y. S. Kiang, Ph. D., Director Research Associates in

Otolaryngology
John Guinan, Jr., Ph.D.
Don H. Johnson, Ph.D.
Donald K. Morest, M.D.
Michael J. Mulroy, Ph.D.
Victor Nedzelnitsky, Sc.D.
William T. Peake, Sc.D.
Raymond Romand,
These de specialite
Walter A. Rosenblith, Ing. Rad.
Thomas F. Weiss, Ph.D.

Research Assistants in Otolaryngology Terrance R. Bourk, M.S. M. Charles Liberman, B.A. T. J. Lynch, M.S.

Research Support Engineers in Otolaryngology David W. Altmann, B.S. Alan H. Crist, B.S. David A. Steffens, B.S.

Microcirculatory Laboratory John Irwin, M.D.

Histopathology Laboratory Harold F. Schuknecht, M.D. William W. Montgomery, M.D.

Electron Microscopy Laboratory Robert S. Kimura, B.A.

Clinical and Research Fellow Trevor J.I. McGill, M.D.

Research Fellows Francisco Antoli-Candela, M.D. Jay Bauer, Ph.D. Lucia Cabezudo, M.D.

DEPARTMENT OF DPHTHALMOLOGY

Professor of Ophthalmology and Chairman of the Department Claes H. Dohlman, M.D.

lenry Willard Williams Professors of Ophthalmology, Imeritus

idwin B. Dunphy, M.D. David G. Cogan, M.D.

Pavid Glendenning Cogan Professor of OphthalmologyV. Morton Grant, M.D.

Henry Willard Williams Clinical rofessor of Ophthalmology Henry F. Allen, M.D.

ssociate Professors of hthalmology

Pavid D. Donaldson, M.D. hirley H. Wray, M.D. Neuro-ophthalmology)

ssociate Clinical Professors of Ophthalmology

Carl C. Johnson, M.D. Charles Schepens, M.D. Caylor R. Smith, M.D.

ssistant Professors of phthalmology

ichard M. Robb, M.D. tephen J. Fricker, M.D. liot L. Berson, M.D. iane Reif-Lehrer, Ph.D. avid Miller, M.D. rthur S. Grove, M.D. eo T. Chylack Jr., M.D. Bruce Szamier, Ph.D. ichard A. Thoft, M.D. avid Walton, M.D. 1athea R. Allansmith, M.D. sichael Berman, Ph.D. l. Dwight Cavanagh, M.D. eborah Pavan-Langston, M.D. obert A. Peterson, M.D. harles E. Riva, D.Sc.

ssistant Clinical Professors f Ophthalmology

Ifred W. Scott, M.D.
Arthur Boruchoff, M.D.
obert Brockhurst, M.D.
Thomas Hutchinson, M.D.
ichard Simmons, M.D.
lal M. Freeman, M.D.
Wallace McMeel, M.D.
umner Liebman, M.D.
obraham Pollen, M.D.

ecturers on Ophthalmology ndre A. Balazs, M.D. Vavid Maurice, Ph.D. Principal Associate in Ophthalmology
Miguel Refojo, D.Sc.

Associates in Ophthalmology Cecil K. Drinker, M.B.A. (Administration) Charles Cintron, Ph.D.

Instructors in Ophthalmology
Don C. Bienfang, M.D.
Donovan J. Pihlaja, Ph.D.
Christine L. Burns, M.D.
David G. Campbell, M.D.
Susan Y. Schmidt, Ph.D.
Marshall Doane, Ph.D.
Clement Trempe, M.D.
Frederick J. Elsas, M.D.

Clinical Instructors in Ophthalmology

Evangelos Gragoudas, M.D.

Henry Braconier, M.D. Henry Adams Mosher, M.D. David Scott, M.D. John M. Carroll, M.D. Byron Lingeman, M.D. Carl Freese, M.D. John Gehring, M.D. Robert Lawlor, M.A. George Olive, M.D. George Garcia, M.D. Richard Chapman, M.D. Michael Wiedman, M.D. Ralph Hinkley, M.D. Donald Weis, M.D. Eugene Ciccarelli, M.D. Lloyd Aiello, M.D. Charles K. Beyer, M.D. Roland Houle, M.D. Perry Rosenthal, M.D. Baruch Sachs, M.D. Elliot Finkelstein, M.D. Albert R. Frederick, M.D. Harvey Slansky, M.D. Ronald Pruett, M.D. Irving Pavlo, M.D. Richard L. Dallow, M.D. A. Robert Bellows, M.D. Mohandas Kini, M.D. Joel Kraut, M.D. Tatsuo Hirose, M.D.

Clinical Assistants in Ophthalmology

Felipe Tolentino, M.D.

Joseph Kim, M.D.
Robert Gorn, M.D.
Brent Lambert, M.D.
Eric Johnson, M.D.
John Sebestyen, M.D.
Chester Boulris, M.D.
Edward Murphy, M.D.
Joseph Micon, M.D.
Howard L. Feldman, M.D.
Peter P. Gudas, M.D.
Edward A. Ryan, M.D.

Clinical Fellows in Ophthalmology

Ann M. Bajart, M.D.
Frank G. Berson, M.D.
William P. Boger III, M.D.
Stephen Depperman, M.D.
David L. Epstein, M.D.
C. Stephen Foster, M.D.
Mitchell Friedlander, M.D.
Philip J. Harris, M.D.
William S. Holt, M.D.
David S. Newsome, M.D.
Paul E. Pataky, M.D.
Thomas M. Richardson, M.D.
John V. Thomas, M.D.
Martin Wand, M.D.
Marc O. Yoshizumi, M.D.

Research Fellows in Ophthalmology

Hong-Ming Cheng, Ph.D.
David Deuker, M.D.
Ross B. Edwards, Ph.D.
Jack V. Greiner, Ph.D.
John Griffin, M.D.
Elbert Magoon, M.D.
Michael A. Sandberg, Ph.D.

DEPARTMENT OF OTOLARYNGOLOGY

Walter Augustus LeCompte Professor of Otology Professor of Laryngology Harold F. Schuknecht, M.D.

Professor of Otolaryngology William W. Montgomery, M.D.

Associate Professor of Otolaryngology
Daniel Miller, M.D.

Assistant Professor of Otolaryngology William Rosser Wilson, M.D.

Assistant Clinical Professors of Otolaryngology

Charles William Cummings, M.D. (resigned December, 1975)
Burton Frederick Jaffe, M.D.
Robert Harding Lofgren, M.D.
Marshall Strome, M.D.

Instructor in Otolaryngology Joseph Bronisław Nadol, Jr., M.D. Clinical Instructors in Otolaryngology

Yale Joel Berry, M.D. Richard Louis Fabian, M.D. William Lee Hayden, M.D. Alfred Lionel Hurst, M.D. Edward Ellis Jacobs, Jr., M.D. Roy Allen Johnson, M.D. Eli Abram Kirschner, M.D. Robert Eugene Klotz, M.D. William Gaynor Lavelle, M.D. Donald King Lewis, M.D. (Deceased December, 1975) Carl Marcus Lieberman, M.D. John Edward McKeigue, M.D. Joseph Anthony Moretti, M.D. Thomas John Mulvaney, M.D. Angelo John Pappanikou, M.D. Rufus Cornelius Partlow, Jr., M.D. Aram Roopenian, M.D. Stephen Anthony Smith, M.D. John Christos Trakas, M.D. Ernest Alfred Weymuller, Jr., M.D. Sidney Wilker, M.D.

Lecturer on Otolaryngology Robert Shigetsugu Kimura, B.S.

Lecturers on Otolaryngology

Werner David Chasin, M.D. Richard Raymond Gracek, M.D. Walter Altar Rosenblith, Ph.D.

Associate Professor of Pathology
Max Lawrence Goodman, M.D.

Principal Associates in Otolaryngology

John Wellington Irwin, M.D. Nelson Yuan-sheng Kiang, Ph.D.

Research Fellows in Otolaryngology

Francisco Antoli-Candela, Jr., M.D. Lucia Maria Cabezudo, M.D. Trevor John Irving McGill, M.D. Raymond Romand, Ph.D.

Clinical Fellows in Otolaryngology

Victor Manuel Gotay-Rodriguez, M.D. Charles Gruenwald, Jr., M.D. James Merriwether Hardy, M.D. Bruce Howard Klenoff, M.D. Donald Paul Shapiro, M.D. Bernard Donald Sklansky, M.D.

* Includes those who hold joint appointments with Harvard Medical School and the Infirmary, as well as those who are members of the Harvard faculty but not the Infirmary staff.

DEPARTMENT OF OPHTHALMOLOGY SURGICAL AND RESEARCH STAFFS

*ALLANSMITH, Mathea R., Lee, J. R., McClellan, B. H. and Dohlman, C. H.: "Evaluation of Sustained Release Hydrocortisone Ocular Insert in Humans." Trans. Am. Acad. Ophthalmol. Otolaryngol. 79:OP128-OP136, Jan.-Feb. 1975.

Allansmith, Mathea (See FRIEDLAENDER, M.)

ALLEN, Henry F.: "Insight into the Aging Eye. Part I. Cataracts: Functional Disability Is Important in Determining the Clinical Significance." Geriatrics 30:47-50, Apr. 1975.

Bellows, A. Robert (See CHYLACK, L. T., Jr.)
BERSON, Eliot L.: "Electrical Phenomenon in the
Retina." Chapter 17 in: Adler's Physiology of the Eye:
Clinical Application. 6th ed. Edited by Robert A.
Moses. St. Louis. Mosby. 1975. pp. 453-499.

Berson, Eliot L., HAYES, K. C. and Rabin, A. R.: "An Ultrastructural Study of Nutritionally Induced and Reversed Retinal Degeneration in Cats." Am. J. Pathol. 78:505-515, Mar. 1975.

BEYER, Charles K. and Johnson, C. C.: "Anterior Levator Resection: Problems and Management." Trans. Am. Acad. Ophthalmol. Otolaryngol. 79:OP687-OP695, Sept.-Oct. 1975.

BEYER, Charles K. and Reeh, M. J.: "Lid Trauma." Chapter in: Practical Management of Ocular Injuries. International Ophthalmology Clinics. 14(4) Winter, 1974. Boston. Little, Brown. 1974. pp. 11-21.

Bienfang, Don C. (See CHYLACK, L. T., Jr.) BORUCHOFF, S. Arthur: Practical Management of Ocular Injuries. Edited by S. Arthur Boruchoff. International Ophthalmology Clinics. 14(4) Winter, 1974. Boston. Little, Brown. 1974.

BORUCHOFF, S. Arthur, Jensen, A. D. and Dohlman, C. H.: "Comparison of Suturing Techniques in Keratoplasty for Keratoconus." Ann. Ophthalmol. 7:433-436, Mar. 1975.

BROCKHURST, Richard J.: "Nanophthalmos with Uveal Effusion: A New Clinical Entity." Trans. Am. Ophthalmol. Soc. 72:371-403, 1974.

DALLOW, Richard L.: "Ultrasonography of the Eye and Orbit." Applied Radiology, May/June 1975.

DALLOW, Richard L. and McMeel, J. W.: "Penetration of Retinal and Vitreous Opacities in Diabetic Retinopathy: Use of Infrared Fundus Photography." Arch. Ophthalmol. 92:531-534, Dec. 1974.

Doane, Marshall G. (See SCHERZ, W.)

Dohlman, Claes H. and Berman, M. B.: "Collagenase Inhibitors." Arch. d'Ophtalmol. 35:95-108, Jan. 1975.

Dohlman, Claes H. (See ALLANSMITH, M. R., BORUCHOFF, S. A., SCHERZ, W., THOFT, R. A.)

DONALDSON, David D.: "Transillumination of the Iris." Trans. Am. Ophthalmol. Soc. 72:89-106, 1974.

Donaldson, David D. (See COGAN, D. G.) DONOVAN, Richard H., Carpenter, R. L., Schepens, C. L. and Tolentino, F. I.: "Histology of the Normal Collie Eye. II. Uvea." Ann. Ophthalmol. 6:1175-1189, Nov. 1974. DONOVAN, Richard H., Carpenter, R. L., Schepens, C. L. and Tolentino, F. I.: "Histology of the Normal Collie Eye. III. Lens, Retina and Optic Nerve." Ann. Ophthalmol. 6:1299-1307, Dec. 1974.

FREEMAN, H. MacKenzie, Schepens, C. L. and Cox, M. S.: "Traumatic Retinal Detachment." Chapter in: *Practical Management of Ocular Injuries*. International Ophthalmology Clinics. 14(4) Winter 1974. Boston. Little, Brown. 1974. pp. 151-170.

FREEMAN, H. MacKenzie, Tolentino, F. I., Schepens, C. L., et al.: "Vitreous Surgery. XII. New Instrumentation for Vitrectomy." Arch. Ophthalmol. 93:667-672, Aug. 1975.

Freeman, H. MacKenzie (See TOLENTINO, F. I.) FRICKER, Stephen J. and Sanders, J. J.: "ERGs and Noise: Detection Probability, Time and Amplitude Errors." Chapter in: XIth I.S. C. E. R. G. Symposium. International Society for Clinical Electroretinography. Edited by E. Dodt and Jerome T. Pearlman. Documenta Proceedings Series. Vol. 4. The Hague. Junk. 1974. pp. 395-408.

FRICKER, Stephen J. and Sanders, J. J.: "A New Method of Cone Electroretinography: The Rapid Random Flash Response." Invest. Ophthalmol. 14:131-137, Feb. 1975.

FRICKER, Stephen J. and Sanders, J. J.: "Internuclear Ophthalmoplegia and Oculomotor Timing Abnormalities (Differential Delays). Neurology 25:281-285, Mar. 1975.

FRICKER, Stephen J. and Sanders, J. J.: Velocity and Acceleration Statistics of Pseudorandomly Timed Saccades in Humans. Vision Res. 15:225-229, Feb. 1975.

FRIEDLAENDER, Mitchell and Allansmith, M. R.: "Ocular Allergy." Ann. Ophthalmol. 7:1171-1186, Sept. 1975.

Gorden, James R. (See THOFT, R. A.)

Gragoudis, Evangelos S., CHANDRA, S. R., Van Buskirk, M. E., et al.: "Natural History of Disciform Degeneration of the Macula." Am. J. Ophthalmol. 78:579-582, Oct. 1974.

GRANT, W. Morton: "Late Glaucoma after Interstitial Keratitis." Am. J. Ophthalmol. 79:87-91, Jan. 1975.

GRANT, W. Morton and Walton, D. S.: "Progressive Changes in the Angle in Congenital Aniridia, with the Development of Glaucoma." Am. J. Ophthalmol. 78:842-847, Nov. 1974. Also in: Trans. Am. Ophthalmol. Soc. 72:207-228, 1974. GROVE, Arthur S., Jr.: "Legal Aspects of Ocular Trauma." Chapter in: Practical Management of Ocular Injuries. International Ophthalmology Clinics.

14(4) Winter 1974. Boston. Little, Brown. 1974. pp. 193-203. GROVE, Arthur S., Jr.: "Evaluation of Exophthalmos." N. Engl. J. Med. 292:1005-1013, May 8,

GROVE, Arthur S., Jr.: "Orbital Radionuclide Examination." Trans. Am. Acad. Ophthalmol. Otolaryngol. 78:OP587-OP598, Jul.-Aug. 1974. GROVE, Arthur S., Jr.: "Radionuclide Evaluation of the Orbit." Mod. Prob. Ophthalmol. 14:190-199, 1975.

GROVE, Arthur S., Momose, K. J. and New, P. F. J.: "Computerized Tomographic (CT) Scanning for Orbital Evaluation." Trans. Am. Acad. Ophthalmol. Otolaryngol. 79:OP137-OP149, Jan. -Feb. 1975.

Grove, Arthur S. (See MOMOSE, K. J.)

HIROSE, Tatsuo and Wand, O.: "Amaurosis Congenita (Leber)." Ann. Ophthalmol. 7:59-63, Jan. 1975.

JOHNSON, Carl C.: "A Canaliculus Wire." Am. J. Ophthalmol. 78:854-855, Nov. 1974.

Johnson, Carl C. (See BEYER, C. K.)

JOHNSTONE, Murray A.: "Pressure-Dependent Changes in Configuration of the Endothelial Tubules of Schlemm's Canal." Am. J. Ophthalmol. 78:630-638, Oct. 1974.

KAUFMAN, Jay H. and Tolpin, D. W.: "Glaucoma after Traumatic Angle Recession; a Ten-Year Prospective Study." Am. J. Ophthalmol. 78:648-654, Oct. 1974.

KINDER, Robert S. L.: "Ophthalmology at the Rhode Island Hospital." Eye Ear Nose Throat Month. 54:123-125, Mar. 1975.

Kraut, Joel A. (See SLOANE, A. E.)

LANGSTON, Roger H. S., Pavan-Langston, D. and Dohlman, C. H.: "Antiviral Medication and Corneal Wound Healing." Arch. Ophthalmol. 92:509-513, Dec. 1974.

LANGSTON, Roger H. S., Pavan-Langston, D. and Dohlman, C. H.: "Penetrating Keratoplasty for Herpetic Keratitis—Prognostic and Therapeutic Determinants." Trans. Am. Acad. Ophthalmol. Otolaryngol. 79:OP577-OP583, Jul.-Aug. 1975.

Langston, Roger H. S. (See PAVAN-LANGSTON, D.)

Lee, James R. (See ALLANSMITH, M. R.)

McCORD, Clinton D., Jr.: "An External Minimal Ptosis Procedure–External Tarsoaponeurectomy." Trans. Am. Acad. Ophthalmol. Otolaryngol. 79:OP683-OP686, Sept.-Oct. 1975.

McMeel, J. Wallace (See DALLOW, R. L.)

Mangianicine, Anita B. (See WAND, M.)

MOMOSE, K. Jack, New, P. F. J. and Grove, A. S., Jr., et al.: "The Use of Computer Tomography in Ophthalmology." Radiology 115:361-369, May 1975.

Momose, K. Jack (See GROVE, A. S., Jr.) NEWSOME, David A., Kraemer, K. H. and Robbins, J. H.: "Repair of DNA in Xerderma Pigmentosum Conjunctiva." Arch. Ophthalmol. 93:660-662, Aug. 1975.

Olive, George M. (See WAND, M.)

PAVAN-LANGSTON, Deborah, Buchanan, R. and Alford, C.: Adenine Arabinoside: A New Antiviral Agent. Edited by Deborah Pavan-Langston, R. Buchanan and C. Alford. New York. Raven Press. 1975. xviii, 425 pp. illus.

PAVAN-LANGSTON, Deborah: "A Clinical Evaluation of Adenine Arabinoside and Idoxuridine in the Treatment of Ocular Herpes Simplex." Am. J. Ophthalmol. 80:495-502, Sept. 1975.

^{*}First Author in Capitals.

DEPARTMENT OF OTOLARYNGOLOGY SURGICAL AND RESEARCH STAFFS

PAVAN-LANGSTON, Deborah: "What Are the Most Revealing Findings in the Treatment of Recurrent Herpetic Keratitis with Keratoplasty?" Highlights of Ophthalmology Monthly Letter. 3:1-3, 1974-1975.

PAVAN-LANGSTON, Deborah, Langston, R. H. S. and Geary, P. A.: "Prophylaxis and Therapy of Experimental Ocular Herpes Simplex. Comparison of Idoxuridine, Adenine Arabinoside, and Hypoxanthine Arabinoside." Arch. Ophthalmol. 92:417-421, Nov. 1974.

PAVAN-LANGSTON, Deborah, Langston, R. H. S. and Geary, P. A.: "Antiviral Ocular Inserts." Contact Lens Medical Bulletin 1:15-21, 1975.

PAVAN-LANGSTON, Deborah and Hess, F.: "Vidarabine in Herpetic Keratitis." Ophthalmology Digest 37:23-28, 1975.

Pavan-Langston, Deborah, MACOUL, K. L.: "Pilocarpine Ocusert System for Sustained Control of Ocular Hypertension." Arch. Ophthalmol. 93:587-590, Aug. 1975.

Peterson, Robert A., JAFFE, N., Cassady, J. R., et al.: "Heterochromia and Horner Syndrome Associated with Cervical and Mediastinal Neuroblastoma." J. Pediatr. 87:75-77, Jul. 1975.

Peterson, Robert A., WEISS, D. R. and Cassady, J. R.: "Retinoblastoma: A Modification in Radiation Therapy Technique." Radiology 114:705-708, Mar. 1975.

RABIN, Arnold R.: "An Ultrastructural Study of Nutritionally Induced and Reversed Retinal Degeneration in Cats." Am. J. Pathol. 78:505-515, Mar. 1975.

7 RALPH, Robert A. and Slansky, H. H.: "Therapy of Chemical Burns." Chapter in: *Practical Management of Ocular Injuries*. International Ophthalmology Clinics. 14(4) Winter 1974. Boston. Little, Brown. 1974. pp. 171-191.

ROBB, Richard M.: "Histochemical Evidence of Cyclic Nucleotide Phosphodiesterase in Photoreceptor Outer Segments." Invest. Ophthalmol. 13:740-747, Oct. 1974.

ROBB, Richard M.: "Electron Microscopic Histo chemical Studies of Cyclic 3', 5' Nucleotide Phosphodiesterase in the Developing Retina of Normal Mice and Mice with Hereditary Retinal Degeneration." Trans. Am. Ophthalmol. Soc. 72:650-659, 1974.

Sanders, James J. (See FRICKER, S. J.)

Schepens, Charles L., KING, L. M. and Margherio, R. R.: "Gelatin Implants in Scleral Buckling Procedures." Arch. Ophthalmol. 93:807-811, Sept. 1975.

Schepens, Charles L. (See DONOVAN, R. H., FREEMAN, H. M., TOLENTINO, F. I.)

SCHERZ, Wolfgang and Dohlman, C. L.: "Is the Lacrimal Gland Dispensable?" Arch. Ophthalmol. 93:281-283, Apr. 1975.

SCHERZ, Wolfgang, Doane, M. G. and Dohlman, C. L.: "Tear Volume in Normal Eyes and Kerato-conjunctivitis Sicca." Albrecht von Graefes Arch. Klin. Ophthalmol. 192:141-150, 1974.

Schmidt, Susan Y., HAYES, K. C. and Carey, R. E.: "Retinal Degeneration with Taurine Deficiency in the Cat." Science. 188:949-951, May 30, 1975.

Slansky, Harvey H. (See RALPH, R. A.) SLOANE, Albert E. and Kraut, J. S.: "The Pleasures of Reading Need Not Diminish with Age." Geriatrics. 30:117-118, Apr. 1975.

Smith, Taylor R. (See WAND, M.)

SWANN, David A., Constable, I. J. and Caufield, J. B.: "Vitreous Surgery, IV. Chemical Composition of the Insoluble Residual Protein Fraction from the Rabbit Vitreous." Invest. Ophthalmol. 14:613-616, Aug. 1975.

Swann, David A. (See CONSTABLE, I. J.)

THOFT, Richard A., Gordon, J. M. and Dohlman, C. H.: "Glaucoma Following Keratoplasty." Trans. Am. Acad. Ophthalmol. Otolaryngol. 78:OP352-OP364, Mar.-Apr. 1974.

THOFT, Richard A., Freedman, H., Dohlman, C. H., et al.: "Corneal Epithelial Preservation." Arch. Ophthalmol. 93:357-361, May 1975.

THOFT, Richard A. and Friend, J.: "Biochemical Aspects of Contact Lens Wear." Am. J. Ophthalmol. 80:139-145, Jul. 1975.

TOLENTINO, Felipe I.: "The Vitreous." Arch. Ophthalmol. 92:350-358, Oct. 1974.

TOLENTINO, Felipe I., Schepens, C. L., Freeman, H. M., et al.: "Vitreous Surgery XII. New Instrumentation for Vitrectomy." Arch. Ophthalmol. 93:667-672, Aug. 1975.

TOLENTINO, Felipe I. and Liu, H. S.: "A Laboratory Animal Model for Phacoemulsification Practice." Am. J. Ophthalmol. 80:545-546, Sept. 1975. Tolentino, Felipe I., MEGUSAR, M. A., Lam, K. W., et al.: "Lymphocyte-Induced Vitreous Membranes: A Comparative Study with Leukocyte- and

Platelet-Induced Vitreous Membranes." Invest. Ophthalmol. 14:240-243, Mar. 1975.

Tolentino, Felipe I. (See DONOVAN, R. H.) Tolpin, Daniel W. (See KAUFMAN, J. H.)

Van Buskirk, Michael E., CHANDRA, S. R., Gragoudis, E. S., et al.: "Natural History of Disciform Degeneration of the Macula." Am. J. Ophthalmol. 78:579-582, Oct. 1974.

Walton, David S. (See GRANT, W. M.)

WAND, Martin: "Provocative Tests in Angle-Closure Glaucoma: A Brief Review with Commentary." Ophthalm. Surg. 5:32-37, Summer 1974.

WAND, Martin, Smith, T. R. and Cogan, D. G.: "Cholesterosis Bulbi: The Ocular Abnormality Known As Synchysis Scintillans." Am. J. Ophthalmol. 80:177-183, Aug. 1975.

WAND, Martin, Mangiaricine, A. B. and Olive, G. M.: "Corneal Perforation and Iris Prolapse Due to Mima Polymorpha." Arch. Ophthalmol. 93:239-241, Mar. 1975.

WIEDMAN, Michael: "High Altitude Retinal Hemorrhage." Arch. Ophthalmol. 93:401-403, Jun. 1975.

Wray, Shirley H., APPEN, R. E. and Cogan, D. G.: "Central Retinal Artery Occlusion." Am. J. Ophthalmol. 79:374-381, Mar. 1974.

Wray, Shirley H., OGER, J. F., Arnason, B. G., et al.: "A Study of B and T Cells in Multiple Sclerosis." Neurology. 25:444-447, May 1975.

Wray, Shirley H. (See COGAN, D. G.)

ANTOLI-CANDELLA, F., Jr., Alvarez de Cozar, F. and Antoli-Candela, F.: "Transvestibular Approach to the Internal Auditory Canal." Ann. Otol. Rhinol. Laryngol. 84:145-151, Mar.-Apr. 1975.

Belal, Aziz (See SCHUKNECHT, H. F.)

BRAWER, James R. and Morest, D. K.: "Relations between Auditory Nerve Endings and Cell Types in the Cat's Anteroventral Cochlear Nucleus Seen with the Golgi Method and Nomarski Optics." J. Comp. Neurol. 160:491-506, Apr. 15, 1975.

CUMMINGS, Charles W. and First, R.: "Stress Fracture of the Clavicle after a Radical Neck Dissection: Case Report." Plast. Reconstr. Surg. 55:366-367, Mar. 1975.

CUMMINGS, Charles W., Weymuller, E., Jr. and Goodman, M. L.: "Follicular Carcinoma of Hürthle Cell Type As Cause of Hemoptysis." Ann. Otol. Rhinol. Laryngol. 84:182-186, Mar.-Apr. 1975.

Cummings, Charles W., Goodman, M. L., Momose, K. J., et al.: "Participants in the Presentation of Case 14, 1975." N. Engl. J. Med. 292:741-745, Apr. 3, 1975.

Cummings, Charles W. (See SOFFERMAN, R. A.)

GACEK, Richard R.: "Diagnosis and Management of Primary Tumors of the Petrous Apex." Ann. Otol. Rhinol. Laryngol. 84(Suppl. 18): 1-20, Jan. - Feb. 1975.

Goldstein, Allan (See MILLER, D.)

Goodman, Max L., Cummings, C. W., Momose, K. J., et al.: "Participants in the Presentation of Case 14, 1975." N. Engl. J. Med. 292:741-745, Apr. 3, 1975.

Goodman, Max L. (See CUMMINGS, C. W., MILLER, D.)

JAFFE, Burton F.: "Chronic Sinusitis in Children. Comments on Pathogenesis and Management." Clin. Pediatr. 13:944-948, Nov. 1975.

Jones, Diane Deleo (See SCHUKNECHT, H. F.) KIANG, Nelson Y. S., Godfrey, D. A., Norris, B. E. and Moxon, S. E.: "A Block Model of the Cat. Cochlear Nucleus." J. Comp. Neurol. 162:221-245, Jul. 15, 1975.

Kiang, Nelson Y. S., GODFREY, D. A. and Norris, B. E.: "Single Unit Activity in the Dorsal Cochlear Nucleus." J. Comp. Neurol. 162:269-284, Jul. 15, 1975.

Kiang, Nelson Y. S., GODFREY, D. A. and Norris, B. E.: "Single Unit Activity in the Posteroventral Cochlear Nucleus of the Cat." J. Comp. Neurol. 162:247-263, Jul. 15, 1975.

Kiang, Nelson Y. S., VER, 1. L. and Brown, R. M.: "Low-Noise Chambers for Auditory Research." J. Acoust. Soc. Am. 58:392-398, Aug. 1975.

Kiang, Nelson Y. S. (See MONTANDON, P. B.) KIMURA, Robert S.: "Ultrastructure of the Organ of Corti." Int. Rev. Cytol. 42:173-222, 1975.

KIMURA, Robert S. and Schuknecht, H. F.: "Effect of Fistulae of Endolymphatic Hydrops." Ann. Otol. Rhinol. Laryngol. 84:271-286, May-Jun. 1975.

KIRSCHNER, Ely A.: "A Different Approach to the Management of Submandibular Gland Disease." Trans. Am. Acad. Ophthalmol. Otolaryngol. 80:ORL474-ORL485, Sept.-Oct. 1975.

DEPARTMENT OF OTOLARYNGOLOGY SURGICAL AND RESEARCH STAFFS

KOHLLÖFFEL, L. U. E.: "A Study of Neurone Activity in the Spiral Ganglion of the Cat's Basal Turn." Arch. Otorhinolaryngol. 209:179-202, 1975.

Liland, Jon (See STEWART, T. J.)

MACMILLAN, Alexander S.: "Sialography." Chapter in: Accessory Digestive Organs. Edited by R. E. Wise and A. P. O'Keeffe. Chicago. Year Book Medical Publishers. 1975. pp. 303-328.

Megill, Norman D. (See MONTANDON, P. B.)

MILLER, Daniel: "Management of Keratitis and Carcinoma in Situ with Cryosurgery." Can. J. Otolaryngol. 3:557-559, 1974.

MILLER, Daniel: "Cryosurgery As Palliation for Carcinoma of the Larynx." Can. J. Otolaryngol. 4:473-474, 1975.

MILLER, Daniel: "Pseudosarcoma of the Larynx." Can. J. Otolaryngol. 4:314-318, 1975.

MILLER, Daniel: "Cryosurgery As a Modality in the Treatment of Carcinoma of the Larynx." Laryngoscope 85:1281-1285, Aug. 1975.

MILLER, Daniel, Goodman, M., Weber, A. and Goldstein, A.: "Primary Liposarcoma of Larynx." Trans. Am. Acad. Ophthalmol. Otolaryngol. 80:ORL444-ORL447, Sept.-Oct. 1975.

Momose, K. Jack, Goodman, M. L., Cummings, C. W., et al.: "Participants in the Presentation of Case 14, 1975." N. Engl. J. Med. 292:741-745, Apr. 3, 1975.

MONTANDON, Pierre and de Goumoens, R.: "Mastoides Aigués à l'Ère des Antibiotiques." Praxis 63:975-976, Aug. 13, 1974.

MONTANDON, Pierre B., Megill, N. D., Peake, W. T., Kiang, N. Y. S., et al.: "Recording Auditory-Nerve Potentials As an Office Procedure." Ann. Otol. Rhinol. Laryngol. 84:2-10, Jan.-Feb. 1975.

MONTANDON, Pierre B., Peake, W. T., Kiang, N. Y. S., et al.: "Auditory-Nerve Potentials from the Ear Canals of Patients with Otologic Problems." Ann. Otol. Rhinol. Laryngol. 84:164-173, Mar.-Apr. 1975.

MONTGOMERY, William W.: "Surgical Laryngeal Closure to Eliminate Chronic Aspiration." N. Engl. J. Med. 292:1390-1391, Jun. 26, 1975.

MOREST, Donald K.: "Synaptic Relationships of Golgi Type II Cells in the Medial Geniculate Body of the Cat." J. Comp. Neurol. 162:157-193, Jul. 15, 1975.

MOREST, Donald K. and Jean-Baptiste, M.: "Degeneration and Photocytosis of Synaptic Endings and Axons in the Medial Trapezoid Nucleus of the Cat." J. Comp. Neurol. 162:135-156, 1975.

Morest, Donald K. and JEAN-BAPTISTE, M.: "Transneuronal Changes of Synaptic Endings and Nuclear Chromatin in the Trapezoid Body Following Cochlear Ablations in Cats." J. Comp. Neurol. 162:111-134, 1975.

Morest, Donald K. and PERKINS, R. E.: "Innervation Patterns in Cochleas of Cat and Rat: Study of Surface Preparations with Rapid Golgi Techniques and Differential Interference—Contrast Microscopy." J. Comp. Neurol. 163:129-158, 1975.

Morest, Donald K. (See BRAWER, J. R.) Moxon, Edwin C. (See KIANG, N. Y. S.)

MULROY, Michael J.: "Cochlear Anatomy of the Alligator Lizard." Brain Behav. Evol. 10:69-87, 1974.

MULVANEY, Thomas J.: "What Are the Needs, and Do We Need to Make Any Changes in Our Resident Education Programs?" Trans. Am. Acad. Ophthalmol. Otolaryngol. 80:ORL397-ORL400, Jul.-Aug. 1975.

NADOL, Joseph B., Jr.: "Positive 'Fistula Sign' with an Intact Tympanic Membrane." Arch. Otolaryngol. 100:273-278, Oct. 1975.

Ota, Carol (See SCHUKNECHT, H. F.)

PARKER, Stephen W.: "Neurology Questions." American College of Emergency Physicians, Self-Assessment Examination, 1974.

Parker, Stephen, DUNCAN, G. W. and Fisher, C. M.: "Acute Cerebellar Infraction in the PICA Territory." Trans. Am. Neurol. Assoc. 99:209-211, 1974. Also in: Arch. Neurol. 32:364-368, Jun. 1975.

Peake, William T., SIEBERT, W. M. and Weiss, T. F.: "Signal Transmission in the Auditory System." Quarterly Progress Reports, Research Laboratory of Electronics, Massachusetts Institute of Technology. 115:297-300, Jan. 15, 1975.

Peake, William T. (See MONTANDON, P. B.) PERON, Didier L. and Schuknecht, H. F.: "Congenital Cholesteatomata with Other Anomalies." Arch. Otolaryngol. 101:498-505, Aug. 1975.

SCHUKNECHT, Harold F.: "Reconstructive Procedures for Congenital Aural Atresia." Arch. Otolaryngol. 101:170-172, Mar. 1975.

SCHUKNECHT, Harold F.: "Pathophysiology of Meniere's Disease." Otol. Clin. North Am. 8:507-514, Jun. 15, 1975.

SCHUKNECHT, Harold F.: "Grand Rounds: Clinical Pathological Conference, Massachusetts Eye and Ear Infirmary." Ann. Otol. Rhinol. Laryngol. 84:704-718, Sept. Oct. 1975.

SCHUKNECHT, Harold F., Belal, A. A., Jones, D. D., Ota, C. Y., et al.: "Atrophy of the Stria Vascularis, A Common Cause for Hearing Loss." Laryngoscope 84:1777-1821, Oct. 1974.

Schuknecht, Harold F. (See KIMURA, R. S., PERON, D. L., STEWART, T. J.)

SOFFERMAN, Robert A. and Cummings, C. W.: "Malignant Lymphoma of the Paranasal Sinuses." Arch. Otolaryngol. 101:287-292, May 1975.

STEWART, Terence J., Liland, J. and Schuknecht, H. F.: "Occult Schwannomas of the Vestibular Nerve." Arch. Otolaryngol. 101:91-95, Feb. 1975.

STROME, Marshall: Differential Diagnosis in Pediatric Otolaryngology. Edited by Marshall Strome. Boston. Little, Brown. 1975. xv, 229 pp. illus.

Weiss, Alfred D., ALLUM, J. H. J. and Tale, J. R.: "MINTYNS-11–A Digital Program for On-Line Analysis of Nystagmus." IEEE. Trans. Biomed. Eng. BME:22:196-202, May 1975.

Weiss, Alfred D. and YOUNG, L. R.: "Models of the Vestibular System and Postural Control." Chapter 17 in: *Technology and the Neurologically Handicapped.*" NASA SP-363. pp. 157-168. Weiss, Thomas F., SIEBERT, W. M. and Peake, W. T.: "Signal Transmission in the Auditory System." Quarterly Progress Reports, Research Laboratory of Electronics, Massachusetts Institute of

Weymuller, Ernest, Jr. (See CUMMINGS, C. W.) WILSON, William R. and Gacek, G.: "The Influence of Pre-Information on the Rating of Articulation." J. Commun. Disord. 8:15-22, Mar. 1975.

Technology. 115:297-300, Jan. 15, 1975.

DEPARTMENT OF RADIOLOGY SURGICAL AND RESEARCH STAFFS

Weber, Alfred and CARRERA, G.: "X-Ray of the Month." Ann. Otol. Rhinol. Laryngol. 84:719-720, Sept.-Oct. 1975.

Weber, Alfred, MILLER, D., Goodman, M. and Goldstein, A.: "Primary Liposarcoma of Larynx." Trans. Am. Acad. Ophthalmol. Otolaryngol. 80:ORL444-ORL447, Sept.-Oct. 1975.

Weber, Alfred and RHEA, J.: "X-Ray of the Month." Ann. Otol. Rhinol. Laryngol. 84:558-559, Jul.-Aug. 1975.

DEPARTMENT OF ANESTHESIOLOGY SURGICAL AND RESEARCH-STAFFS

DONLON, John V., Ali, H. H. and Savarese, J. J.: "A New Approach to the Study of Four Nondepolarizing Relaxants in Man." Anesth. Analg. 53:934-939, Nov.-Dec. 1974.



Over 25 Years of Service	15 Years of S
Miss Dorothy Campanella	Mrs. Hope S
Miss Tynne A. Lamsa, RN	10 W
Miss Dorothy H. Landers, RN	10 Years of Sommers. Ellen A
Mrs. Rita Lovely	Miss Inez Ber
Mr. Raymond W. Lyons	Mrs. Beatrice
Mr. Philip Maguire Miss Anita Mangiaracine	Mrs. Carol C
Miss Ellen McCarthy, RN	Mrs. Anne E
Mrs. Dorothy Pearl	Miss Elena Fr
Mrs. Hattie Roberts	Miss Ethel H
Miss S. Madeline Shipsey	Mrs. Diane J
Miss Mollie Silverman	Miss Rita Ke
Miss Ruth J. Straitiff	Mrs. Mary Lo
Miss Ann E. Stromberg	Miss Agnes I
25 Years of Service	Miss Mary M Mr. Harold N
Mrs. Antoinette Christie	Miss Barbara
Mr. Robert McLaughlin	Miss Nora Pr
Mr. Lloyd Ramsdell	Miss Mary E.
30 Voom - 68	Miss McLeod
20 Years of Service W. Morton Grant, M.D.	Miss Georgia
Mrs. Bella Miller	Mrs. Edna S
William W. Montgomery, M.D.	Mr. Edward
Mrs. Delia Pasqua	Mrs. Elizabet
Mr. Charles T. Wood	
Over 100 Hours of Service	
Mrs. Charlotte Barnaby	Mrs. Florence
Mrs. Merle Barry	Mrs. Robert
Mrs. Dorothy Benvie	Mrs. Henry I
Mrs. John B. Eliot	Mr. John Mu
Miss Eliza Friedman	Mrs. Enid Ph
Miss Lenore Griffin	Miss Esther S
Sister Marie Holt	Mrs. Harold
Mrs. Edgar H. Kent	Mrs. Taylor S
Mrs. Calvin A. King Mrs. Herbert Kirshnit	Mr. William
Wirs. Herbert Kirshnit	
P	
£1	
1	
1075 A 1D (1)4 D 0 D	
1975 Annual Report of Mass. Eye & Ear Infi Editor, Antony Lloyd; Design, Erus Cevoli;	mary
Photography, Dan Bernstein, Bradford Herzog	
Antony Lloyd, Colin Palmer, James Schuknecht Printing, Mark-Burton, Inc. Printed in USA.	, Peter Travers;
Typography, Monotype Composition Co.	

Bequest and Estate Planning Inform. The future treatment and cure of those widepends upon your long-range thoughtful MASSACHUSETTS EYE & EAR INFinelp meet future needs in the fields of speeducation for the years to come.	whose sight, hearing, ulness and planning. TRMARY in your wi	By including the ll or estate plan, you car
☐ I am pleased to inform you that I have included the MASSACHUSETTS EYE & EAR INFIRMARY in my estate plan.	information with my esta I understand	terested in obtaining which will help me ate planning. I there is no obligation n requesting this
Name		
Street		
City	State	Zip
Contribution Card		
☐ I would like to donate \$ ☐ I would like to donate \$ My contribution is being sent with the ☐ I would like to pledge \$ expect you to contact me as to my pre-	to the Infirmis card. to the Infirmary E	mary Building Fund. Building Fund. I will
Name		1,1,2
Street		
City	State	Zip
Your contribution is tax deductible.		
If you would like additional information contact Mr. Robert J. Vetter, Director of		portunities, please
New England Eye Bank		
Thousands of persons have benefitted di of the New England Eye Bank, now in it Massachusetts Eye and Ear Infirmary, an information about becoming an eye don	ts 30th year. The Eye nd serves five New En	e Bank is located in the agland states. For more
☐ I am interested in receiving more information about the New England Eye Bank.	e 🗌 Please se applicati	nd me an eye donor on form.
Name		
Address		
City	State	Zip



Mass-Eyec Far 243 Charles Street Boston, MA 02114

Massachusetts Eye & Ear Infirmary Annual Report for 1976







July 4, 1976. (above) By afternoon, tens of thousands of people had gathered along the Esplanade, in buildings, on rafters, and in a motley flotilla of boats in the Charles River Basin. In the background against the skyline, is the newly completed Mass. Eye and Ear Infirmary. (Below) A few hours later, the City that lit the fuse of the Revolution celebrated the 200th anniversary of its success with a sound and light show worthy of the event. Sound by the Boston Pops Orchestra in the glowing Hatch Memorial Shell (lower right). Lights by giant fireworks. Cheers by all the good folks who came to the birthday party. (Photos courtesy Boston Globe)

Massachusetts Eye and Ear Infirmary

More than 55,000 dawns have come up over the Massachusetts Eye and Ear Infirmary since it opened its doors as a small walk-up clinic in Boston's old Scollay Square. During its century and a half of service, the Infirmary moved first to a building on Charles Street in the Beacon Hill neighborhood, and in 1899 to its present location at the corner of Fruit and Charles streets next to what used to be called the West End. The Beacon Hill building survives as the hospital's nursing residence.

Over the past seven years, the Infirmary has been building an entirely new hospital over and around its 1899 building, and in 1976 dawn finally came up on the completed "new" Infirmary.

A hospital never closes its doors, and the particular early morning photograph on the cover of this report found the normal changing of the guardians of patient care. Nurses, doctors, and service people leave in the pale, late-winter dawn as others arrive to take their place. During the course of the day, hundreds of people will come and go, as patients, visitors, practitioners, employees. Over the years, millions have crossed the various thresholds of the Infirmary, and they will be followed by millions in the future.

The dawn, then, marks not so much a beginning as a continuation. It is the turning of another page in a book written by people caring for people.

Contents

- 3 Report of the Chairman and President
- 4 Report of the Director
- 6 Report of the Chief of Ophthalmology
- 8 Report of the Chief of Otolaryngology
- 10 Portrait of a Hospital-1976
- 12 Comparative Statistics
- 13 Financial Statement
- 20 Medical Staff
- 24 Publications



(left) The Infirmary is people who care about people. The nursing staff combines great medical skill with evident warmth. (lower left) A young outpatient with his mother in the new General Eye Service. (lower right) The 151st annual meeting of the Infirmary Corporation, held in the newly completed hospital building.





Report of the Chairman and the President

During the last few years, the maintenance of a sound fiscal policy in this and other teaching hospitals has become increasingly difficult. The complex of government regulations, marching through our budgets, with inflation right behind us, has changed the picture considerably. But thanks to our management, we completed the fiscal year 1976 about on budget, with perhaps a small gain on a gross of just under \$20 million. This has been accomplished in the face of rate setting regulations and no reimbursement for welfare cases.

How about the patient at our hospital? Well, cheers to our Director, Charles Wood, and his team! We have, thanks to them, pioneered in the adoption of a unit charge system whereby each patient pays for what he uses in service. We have determined on a cost for each procedure in terms of units which are billed to the patient. This results in an aggregate daily charge for service used. We hope that others will be able to adopt this system, and in fact would urge them to do so as a more equitable method of charging cost to each patient.

We are apparently faced with increasing pressure from government regulators to place a lid on costs. However much we may sympathize with this intention, any fixed percentage ceiling will eventually lead to cuts in service. In our own efforts to cut costs in our specialty hospital, we have already been tending to shorter and shorter stays, with consequent individual saving, and there must be still more ways that the cost problem can be attacked other than percentage containment.

One of these methods of reducing cost was the formation by the Harvard

teaching hospitals of their own insurance program to handle malpractice insurance for the group. With our insurance cost being increased four times in one year, this was about the only answer. We hope for considerable savings from this plan. However, such efforts are only a partial step towards controlling cost in an inflationary period. Perhaps these regulators should look harder at government deficits, \$60 to \$70 billion against \$4 billion ten years ago.

We are now in complete operation in our magnificent modern hospital. This is a Godsend to all who work there and we hope to our many patients, from some of whom we have heard good things about their stay with us. We believe we can say at long last we do have a splendid facility at the Massachusetts Eye and Ear Infirmary, of which we can all be proud.

We would like to recognize the long outstanding service of two of our Trustees who have joined the honorary ranks. Dr. Paul A. Chandler, distinguished surgeon on our staff for many years and a Trustee since 1967, and Dr. Edwin B. Dunphy, who served as Chief of Ophthalmology and as a Trustee also from 1967, were elected Honorary Trustees.

Finally, with heartfelt thanks to our many generous donors, please come and look us over. We have a wonderful hospital! You will see here a dedicated group of some 900 people who really make this hospital work for you.



Melville Chapin, Chairman



Robert C. Jordan, President

I'm clieb Chapte Polar grade

The aerial photos on the inside front cover recall unforgettable memories for those of us who were in Boston on July 4, 1976. For we who are the "Infirmary's people"—patients, doctors, nurses, volunteers, trustees, administrative and service staff—there is something even more special about it. With the completion of the country's second century and the beginning of its third came the completion of the new Infirmary, a unique hospital, research, and teaching complex that will carry us into the years beyond 2000. As you can see from the pictures, the Infirmary has taken its place in the skyline of the New Boston, and the opening of the main entrance on Fruit Street in May brought profound and welcome relief to everyone who had had to put up with our tiny "temporary" facilities for the past several years of construction. Later in the year our new eye and ear-nose-throat outpatient clinics opened, making it infinitely more pleasant and convenient for patients who seek ambulatory care here. Bit by bit, we

will follow our master plan and expand into other areas of the new building to relieve the tremendous space pressure on many of our departments. Such expansion is costly, of course, and we must proceed step by patient step as funds become available.

We have just completed the first full year of using our new cost accounting system, and I am happy to report that by any measure it is working successfully. Our program continues to be watched very closely by other hospitals around the country and by various local, state, and federal government agencies. Our first-year pilot program with Blue Cross of Massachusetts, Inc. exceeded even our expectations, and I hope to be able to report a year from now that the seeds planted this year have taken root and grown. It is particularly important that this approach be demonstrated in a general hospital, which will almost certainly erase any doubts about its widespread potential. I am quite confident in the outcome of such a test because, despite the fact that we are a specialty hospital, we have worked with such a variety of conditions and amassed such a broad collection of data that we are certain of successful use in general hospitals.

The year as a whole is outlined by the statistics on pp. 12-14, but also by the faces of the people whose pictures you see throughout this report. We are fond of saying that the Infirmary is Peo-

Summarizing some of the highlights of the year:

- Phase II was completed and we moved into our spacious new front lobby (for the record, Dr. Joseph Nadol, otolaryngologist, was the first to cross the new threshold).
- The Outpatient Clinics were opened on the first and second floor, dramatically improving the surroundings for ambulatory care.
- The Infirmary opened its own pharmacy (we had previously purchased drugs from the Mass. General Hospital).
- In our Nursing Services, a Committee for Nursing Practice was established to evaluate our nursing delivery systems and provide an ongoing process of internal review. The committee can identify any recurring problems in patient care and develop appropriate solutions. I need hardly tell you that our nursing service is already among the finest in the country, largely because of this continuing practice of self-evaluation and improvement.
- The new Gift Shop, run by the Ladies Visiting Committee and our indomitable Volunteers, opened next to the new front lobby. It is, of course, a vast

improvement, and we are all extremely grateful to Mrs. Varaztad Kazanjian, who founded the shop, and the LVC and volunteers who make it such a gem of a place for our patients and visitors.

- The Anesthesia Service and Recovery Room improved their staffing schedules to provide increased coverage in the surgical suites.
- Social Service, now in its 70th year, opened up its new ENT Social Service offices in the new building. The department also organized a series of educational meetings for glaucoma patients.

These are just a few highlights of an exciting and productive year that should make everyone associated with the Infirmary proud of its continuing excellence in medical service to patients from the local community, the country, and the world. It is indeed a "brave new world" that we are all entering, and a marvel that there are such people in it. For all of us in the administration, it is a continuing privilege and challenge.

Charles T. Wood

Director



Charles T. Wood, Director

Report of the Chief of Ophthalmology

The year has been one of considerable progress in important areas for the medical administration of the Eye Service. The building program has resulted in a physical plant that is the envy of the ophthalmic world. Some needed reforms of the clinical services, particularly in the out-patient departments, have yet to be fully implemented, but we expect to report progress along these lines in the next report. Here are some of the highlights of the year's activities:

Teaching—This aspect of the Eye Department's activities continues to be very strong.

The residency program has seen a number of improvements during the year and even more fundamental changes are to go into effect in the summer of 1977. For example, the traditional system of accepting residents in a staggered fashion, two residents every three months, will be abolished. Instead, eight residents will start together on July 1 every year. There are also other substantial changes in the residency presently being considered by the Teaching Committee.

Dr. Dwight Cavanagh, who was an able Director of Residency Training, resigned on July 1 and took up a position in Atlanta. Dr. Cavanagh had done much to improve the training program and the residents' morale. He was replaced by Dr. Stephen Foster.

The Infirmary is still the country's foremost institution for the training of post-residency fellows. There are twenty to thirty such fellows in training at any given time and when finished, these physicians are well equipped to take up positions of leadership in academe or in a clinical subspecialty anywhere in the world.

The Lancaster Course and the Harvard Basic Science Course continue their excellent programs. However, these two courses represent somewhat of a duplication of effort. Also, the number of applicants to the Basic Science Course is dwindling and serious thought should be given to the possibility of amalgamating the two courses into one, preferably located at Colby College.

The high quality of undergraduate teaching continues and is witnessed by the fact that a surprisingly large percentage of the Harvard Medical School graduating class want to go into ophthalmology.

The Infirmary has maintained its reputation for teaching, since many staff members are regularly invited to give lectures and conferences elsewhere in the United States and abroad. This is a very effective way of showing the Infirmary's flag in the ophthalmic community.

Research—The general research effort has thrived during the year. The Infirmary has a group of very talented and motivated investigators, and we have also been fortunate in receiving very substantial funds for the ongoing research, as well as for research training. We have a larger grant support than any other university hospital in the country.

The Central Electronmicroscopy Laboratory is presently under construction and will be finished in January. It will operate under the supervision of Dr. Daniel Albert. Further construction for facilities in glaucoma and cataract research, as well as a large animal room, is in the planning stage. Also, a new Ophthalmic Pathology Laboratory will be built on the fifth floor next to the Electronmicroscopy Laboratory. Two thirds of the funds needed for the Pathology Laboratory are already available.

Dr. Judy Jedziniak, a Ph.D., has recently been added to the Howe Laboratory research staff. She will collaborate with Dr. Chylack on biochemistry of the lens.

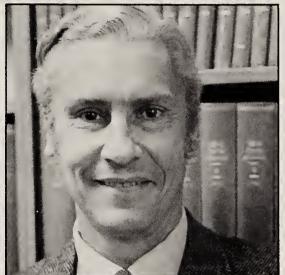
Personnel—The Infirmary was fortunate in being able to recruit Dr. Charles Regan back from a chairmanship in a neighboring medical school. Dr. Regan resumed his previous position as Associate Chief, while Dr. Richard Thoft continues as Assistant Chief. These developments have made the very heavy burden of medical administration more manageable.

The Retina Service also had a change in personnel during the year. Dr. Robert Brockhurst, who had for several years been a very effective and hardworking Acting Director, resigned August 1. He was replaced by Dr. Regan, again as Acting Director.

Dr. Daniel Albert, a renowned academic ophthalmologist from Yale University, joined our staff as Professor of Ophthalmology on July 1, his area of expertise being eye pathology and tumor biology. Also, Drs. Dueker and Epstein recently joined the Glaucoma Service on a full-time basis.

One of the most prominent staff members in the history of the Infirmary, Dr. Parker Heath, died in August. Dr. Heath was Clinical Professor of Ophthalmology Emeritus, and after his retirement directed the Lancaster Course for many years. Dr. Ichiro Okamura, one of the Infirmary's and the country's most skilled retina surgeons, retired July 1. Doctors Elsas, Cavanagh and Ohanesian resigned from the staff to take up positions elsewhere.

Efforts by the Eye, the ENT and the Anesthesia Services to recruit a geographic full-time internist to be in charge of consult services and teaching in internal medicine



have so far been unsuccessful, but new efforts are presently underway.

The Future—The passing of the National Health Manpower Act and the election of a new president almost certainly signal considerable future changes in the delivery of health care in the country. A National Health Insurance, with its built-in controls of physicians, appears a certainty. Prepayment programs will be expanded. Hospitals will be given a greater role in outpatient care. More paramedical personnel, including optometrists, will be trained. These and other developments necessitate fresh contingency planning for clinics, for optimal number of residents and staff, etc. However, despite shifting pressures and changes from the outside, with our sophisticated staff, our administration dedicated to change and our superb new hospital, the future appears bright.

Oaes Johlman

Claes H. Dohlman, M.D.



(lower right) Infirmary ophthalmologist, right, examines patient in the hospital's Glaucoma Service. (top right) Claes H. Dohlman, M.D. (top left) A Fluorescein angiogram at the Infirmary shows the abnormal leaking blood vessels which result from diabetic retinopathy, an eye disorder. (lower left) Nurse applies medication to patient in General Eye Service.



Report of the Chief of Otolaryngology

Exciting things continue to happen at the Infirmary, and almost every year, we can report an event of considerable note. This year, it is the opening of the all-new and beautiful Otolaryngology Outpatient Clinic. It features individual examining rooms to replace open booths, expansion of audiology facilities, a special examinations room, and a Harvard Teaching Room with two modern examining units. There are also attractive admitting and reception suites and a very comfortable waiting area. It provides and insures our ability to provide toplevel medical care as well as a more pleasant environment for patients, administrative and professional personnel.

Students—Recent manpower studies in the health sciences in the United States have shown that the specialties of medicine are becoming overpopulated. As a result, medical students everywhere, encouraged by their faculty advisors, are showing increased interest in family medicine. This has created a growing demand for student teaching of otolaryngology because ear, nose and throat problems require thirty to sixty percent of the family physician's effort. Where students previously often showed disdain for the head mirror and otoscope, they now want to develop the necessary skill and knowledge to use them. Quite clearly, it is not going to be possible to find in our outpatient clinic and emergency ward a sufficient number of cases of otitis media, tonsillitis, sinusitis, nose bleeds, etc. to show how they should be managed to each of the 140 medical students. Therefore, the clinic experience of each student must be supplemented by lectures and other teaching aids, such as slides, movies, and videotapes. We have established an office of undergraduate and postgraduate education with a full-time clerical secretary to ensure the best use of clinical cases, to coordinate the teaching schedules with other departments of the Harvard Medical School, and to service and expand the teaching aid materials. Dr. Ernest Weymuller and Dr. William Montgomery are in charge of this program and the faculty includes residents, as well as part-time and full-time staff. This labor-of-love should not go unnoticed.

Teachers—Again this year, the Harvard Medical School is credited with having produced the largest number of currently active full-time academicians. The Department of Otolaryngology has made a substantial contribution to this group. As one would expect, almost all who have completed residencies in otolaryngology are engaged in teaching undergraduate students and/or residents on at least a part-time voluntary basis. Since the inception of its residency program in 1902, the Department has trained 280 otolaryngologists. Currently there are 180 in active practice, 60 of whom

are located in the New England area. Thirty have been appointed to positions on full-time academic faculties, and to date 18 of these have become department chairmen. This record reflects the influence on the Infirmary of such dedicated men as Blake, Crockett, Walker, Mosher, Schall, Lurie, Meltzer, Weille and others. Surely, the principle of unselfish dedication to the welfare of mankind, so clearly observed in the lives of these men, is having its impact on otolaryngology in this nation.

Research—The National Institutes of Health have awarded a five-year consortium grant to the MEEI, MIT, MGH and Harvard Medical School for the purpose of combining the research strengths of individuals in these institutions in studies on deafness. Nelson Kiang of the Infirmary's Eaton Peabody Laboratory of Auditory Physiology is the principal investigator. Thus, engineers, physiologists and clinicians will pool their knowledge and skills with the objective of learning more about what can go wrong with the hearing mechanism and what might be done about it. The great virtue of a grant like this is that it brings basic scientific knowledge into closer contact with clinical problems (in this case, deafness) and greatly enhances the probability of putting the discoveries of research to practical use.

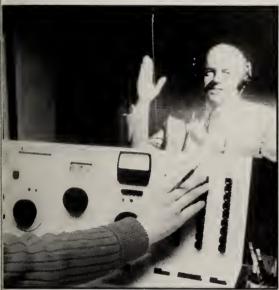
One of the interesting projects in the Electron Microscopy Laboratory has been the study of postmortem ear specimens from a patient with bilateral Meniere's disease. Dr. Robert Kimura and his staff made over 7,000 electron photomicrographs of tissue sections from these ears and have discovered pathological changes, not previously seen, which may account for the hearing losses in this disease. Dr. Joseph Nadol is studying other human ear disorders by the same method.

The personnel of the Otopathology Laboratory continue to collect human ear specimens and study them by light microscopic methods. A new, useful scientific tool in this laboratory is the behavioral audiometry test room. Here, chinchillas are taught to jump over a hurdle in response to tones, thus providing a method for performing hearing tests following various types of experimentally induced hearing loss.

Other projects are in progress in the Microcirculatory Laboratory (Dr. John Irwin); Pathology Department (Dr. Max Goodman); Rhinolaryngology Laboratory (Dr. William Montgomery); and Medical Otolaryngology Department (Dr. William Wilson). Additionally, our residents are engaged in nine different clinical research projects.

The Inaugural Meeting of the HFS Society was held in June of this year. The forty-four members of the Society consist of

right) Skilled and miling nursing care or a patient following hroat surgery. below) Audiologist left) tests hearing of patient in one of the nfirmary's five soundproofed hearing units n the Audiology Department.







larold F. Schuknecht, M.D.

former Research and/or Clinical Fellows in the Department of Otolaryngology. They came from 21 foreign countries as well as the United States. Each reported on his current research at a one-day meeting held just prior to a three-day clinical otology course which attracted an additional 250 otolaryngologists.

Organization—The active clinical staff consists of four full-time and 36 parttime otolaryngologists as well as 15 residents. Additionally, there is a Pathologist (Dr. Max Goodman) whose time is shared with MGH and four Radiologists (Dr. Alfred Weber, Dr. Alexander MacMillan, Dr. Kryokazu Momose and Dr. Jeanne Keller) whose services are shared with the Department of Ophthalmology. There are four otolaryngologists on the Honorary Staff, fourteen on the Senior Consulting Staff and two on the Associate Staff. Recently appointed are an oral surgeon (Dr. Peter Goldberg) and oncologist (Dr. Susan Pitman). In this Department, there are 17 postgraduate researchers (of which five are working on their Ph.D. theses) and three postdoctoral research fellows.

Dr. Richard Fabian has resigned as chief of the plastic service to enter private practice in Waterbury, Conn. but will continue on the active staff. Dr. Robert Lofgren was appointed to the Board of Surgeons replacing the late Dr. Donald Lewis. Dr. Charles Cummings has resigned from the staff to accept a full-time academic appointment as Associate Professor in the Department of Otolaryngology at the State University of New York in Syracuse. Changes in

been an excellent integration of clinical effort at every level which has worked to the great advantage of our patients.

The Future—The Infirmary has successfully solved the problem of a decaying physical plant by the construction of a superb new hospital. I suspect that our next crisis will concern health care financing. The solution to this problem will again require the cooperation, understanding and patience of the medical staff, administrators and trustees alike. It is quite obvious that medical care, in its very best form, is becoming too expensive. I dare say that whatever cost level is decided upon, we at the Infirmary will be able to give the best that is available anywhere.

Thankot Schulsnecht

Harold F. Schuknecht, M.D.

Pictures of an Infirmary's Year-Highlights of 1976

During 1976 the final touches were put on the Infirmary's new building (1), and by wintertime the completed hospital, now a landmark on the Boston horizon, was identified for visitors by a bold cube-shaped sign on the corner of Charles and Fruit Streets (2). Spring saw the opening of the new ground-floor lobby with its spacious reception desk and waiting area (3), and the main entrance to the Infirmary on Fruit Street (4), and marked the debut of a new, larger, and better equipped emergency ward (5). Because of the hospital's specialties, the emergency ward is uniquely staffed and equipped to handle injuries to the eyes, ears, nose and throat. The gift shop moved into its elegant new lobby quarters in June (6), and the gift shop's founder, Mrs. Varaztad Kazanjian, was honored by the unveiling of a plaque dedicated in her name. The Volunteer staff, a singularly dedicated group of men, women, and young people, assists patients and visitors around the Infirmary and provides an escort service for patients to and from the Infirmary (7). At the immensely popular Charles Street Fair held during the summer, our Beacon Hill neighbors got better acquainted with the Infirmary personnel and what they and the Infirmary have to offer (8). Summer also saw the opening of the new pharmacy on the third floor (9). Until now, the Infirmary had purchased prescription drugs from the Mass. General pharmacy. The completion of the ENT outpatient clinics and waiting area (10), and of the Eye Clinic reception area (11), marked a giant step forward in ambulatory patient care. During much of the year, the Infirmary found itself either in the news or making news. Physicians on the Infirmary staff made numerous appearances on television and radio, and the Infirmary's unique split-cost accounting system was the subject of widespread attention in various professional and public media. A WBZ-TV film crew spent a day interviewing Director Charles Wood (12) and filming Infirmary facilities, including an electron microscope in the Berman-Gund Laboratory for the Study of Retinal Degenerations (13). Over the summer, Dr. Joseph Nadol appeared on











































WCVB-TV, Channel 5, "Good Day!" show to discuss the effect of noise pollution on hearing loss (14). The highly popular Film Society series of lectures and films featured such timely topics as working with the blind, the costs of health care, stop-rape presentation, retinal research, and esophageal speech. Here, Ann Volk, director of the Infirmary's Esophageal Speech Program, describes the unique speech method (15). "Open Hospital," a program in which patients and the public are invited in to speak with physicians on an informal basis, was introduced with a discussion of hearing loss. The Infirmary was awarded a major grant for the construction of a new Rhinolaryngology Research Laboratory, to be headed by Dr. William Montgomery, Surgeon in Otolaryngology. Here, Dr. Montgomery explains how a silicone implant he developed can be used to maintain the shape of the trachea and larynx while healing after injury (16). The Infirmary's Ophthalmology staff joined a nationwide program to study a major cause of blindness, diabetic retinopathy, and Dr. Lloyd Aiello, Associate Surgeon in Ophthalmology, is shown here operating a laser photocoagulator with Dr. Neil Silberman, Resident in Ophthalmology, to treat a patient in diabetic retinopathy (17). The private office staff of Infirmary physicians got a chance to meet each other and get acquainted with the Infirmary at the annual Secretaries' Dinner and Information Fair. Here, secretaries are shown the intricacies of Coulter S, an instrument used to conduct various blood sample tests (18). Stressing the theme, "The Infirmary is People. Thanks.", the annual Service Awards Program was held on the eighth floor (19) honoring collectively more than 1,000 years of service to MEEI. At year's end, the eighth-floor gallery was the place to be during the LVC's highly successful Christmas Bazaar (20), and was also used to host the 151st Annual Meeting of the Corporation. At the annual meeting of the professional staff, Stephen Weiner, chairman of the state Rate-Setting Commission, discusses the relationship between the state and providers of health care (21) as Robert Jordan, president of the Corporation, listens intently (22).



Comparative Statistics			
Fiscal 1975–1976		1976	197
Inpatient Hospital	Admissions:		
(174 Beds)	Eye Patients	7,047	6,56
(TT) Eddy	ENT Patients	4,133	4,2
	Total Admissions	11,180	10,8
	Operations:		
	By Eye House Staff	1,037	1,1
	By Eye Attending Staff	6,093	5,5
	Total Eye Operations	7,130	6,6
	By ENT House Staff	1,273	1,0
	By ENT Attending Staff	2,531	2,8
	Total ENT Operations	3,804	3,9
	Total Operations	10,934	10,6
	Discharges:	11,154	10,8
	Death	10	
	Autopsies	10%	50 (
	Patient Days	55,288	52,8
	Average Patient Census	151 4.96	4
	Average Length of Stay Bed Utilization	87%	8.
	Total Discharges	11,154	10,8
Outpatient Department	Eye Clinic		
· ·	Total Eye Visits	60,612	56,5
	ENT Clinic		
	Total ENT Visits	21,017	22,0
	Total OPD Visits	81,629	78,
Emergency Ward	Eye Cases	18,346	18,9
	ENT Cases	17,036	15,2
	Total	35,382	34,2
Ambulatory Surgery	Eye Cases	1,979	2,1
	ENT Cases	1,640	1,5
	Total	3,619	3,7
Special Services	Audiology	9,354	9,1
	Electroretinography (tests)	834	
	Fluorescein (tests)	2,271	2,4
	Otoneurology (tests)	388	3
	Ultrasonography (tests) Visual Function Studies	212 440	3
	Radiology (exams)	27,103	24,
	Laboratories:	•,	
	Eye Pathology (specimens)	1,430	1,3
	ENT Pathology (specimens)	8,168	$3,\epsilon$
	Clinical Laboratory (procedures)	83,104	84,
	Bacteriology (cultures)	15,446	12,4

Massachusetts Eye and Ear Infirmary

Financial Statement

Unrestricted Funds September 30, 1976

Balance Sheet					
Current Assets Cash		\$ 456,356	Current Liabilities Current installments of		
Accounts Receivable	\$ 4,080,453		long-term debt		\$ 1,067,700
Less Allowance for			Accounts payable		1,023,697
doubtful receivables	616,223	\$ 3,464,230	Accrued expenses		255,365
Investments, at cost (quoted			Total Current Liabilities		2,346,762
market value \$1,125,141)		1,079,310			
Inventories		114,896			
Prepaid expenses		111,532	Long-Term Debt, less current		
Due from other Funds		95,816	installment		16,601,055
Estimated Contract Adjustment		85,676	Equity in Undistributed		
Total Current Assets		5,407,816	Security Pool		(72,423)
			Fund Balances		
Other Assets			General operating fund	\$ 1,945,596	
Property, plant and equipment	40,580,357		Depreciation fund—		
Less accumulated			unrestricted	2,255,581	
depreciation	6,050,176	_34,530,181	Plant Fund	16,861,426	21,062,603
Total Unrestricted Funds		\$39,937,997	Total Unrestricted Funds		\$39,937,997

Septem	ber 3	50, 1	1976
--------	-------	-------	------

Statement of Revenue and Expenses		
Patient Service Revenue		\$19,646,627
Adjustment to Patient Revenue for uncollectible accounts, free care and contractual allowances		1,780,733
Net Revenue Service to Patients		17,865,894
Other Operating Revenue (including \$3,680,178 from Research and other Specific Purpose Funds)		4,542,813
Total Operating Revenue		22,408,707
Operating Expenses:		
Patient Services (including depreciation)	\$18,425,252	
Research and other Specific Purpose Direct Expense	3,680,178	22,150,430
Hospital Net Income from Operations		\$ 303,277

Financial Statement

Income from Investments Gifts and Bequests Donated Income—Various Estates			\$ 1,114,961 763,200 489,483 \$ 2,367,644
Restricted Funds September 30, 1976 Balance Sheet		19.	
Specific Purpose Funds Cash Investments at cost (quoted market value \$1,178,108)	\$ 2,553,422 1,123,241	Equity in undistributed security pool gains Fund balances Special purpose Temporary Unexpended restricted income Due to other Funds	\$ (10,614) 2,066,906 793,410 723,598 103,363
	\$ 3,676,663		\$ 3,676,663
Building Fund Cash Construction in progress Due from other funds	\$ 112,199 2,743,921 7,547 \$ 2,863,667	Accounts Payable Fund balance	\$ 268,267 2,595,400 \$ 2,863,667
Endowment Funds Cash Investments, at cost (quoted market value \$15,525,226)	\$ 68,133 14,132,879 \$14,201,012	Equity in undistributed security pool gains Fund balances Income restricted Income unrestricted	\$ 4,351,786 1,623,858 8,225,368 \$14,201,012

Trustees

-		
1925	Hon. Leverett Saltonstall —honorary	1
1929	Walter Trumbull ¹ —	1
	honorary	1
1934	Robert F. Bradford	1
1935	William A. Parker	
1940	Mrs. Richard Cary Curtis	1
1940	Horace W. Frost—	1
	honorary	1
1943		1
	honorary	1
1945	Mrs. Sullivan A. Sargent	1
1947	William H. Claflin, III	1
1948	August R. Meyer	1
1948	Miss Amelia Peabody—	
	honorary	1
1951	Hon. Francis W. Hatch, Jr.	
1951	Melville Chapin	1
1951	Henry K. Porter	1
1952	George A. McLaughlin, Sr.	1
1953	Mrs. Varaztad H.	1
	Kazanjian	1
1955	Richard P. Chapman	1
	William Ehrlich	1
	Weston Howland, Jr.	
	1	

1957	Hon. William L.	1970	Mrs. Frederick S.
-, -, -,	Saltonstall		Moseley, III
1963	Thomas B. Frost	1970	Mrs. Frederick R. H.
	John S. Howe		Witherby
	Frederick H. Lovejoy—	1971	Avram J. Goldberg
	honorary		Frank L. Harrington, J.
1965	George M. Lovejoy, Jr.	1971	Robert C. Jordan
1965	Mrs. John Lowell	1971	Mrs. Robert C. Meisel
	Frederick C. Rozelle, Jr.		Robert D. Williams
1966	Francis S. Hill	1972	Matthew J. Burns
1966	Robert Bacon.	1972	Leo H. Daley
1966	James I. Summers	1972	Mrs. William P. Ellisor
1966	Leo F. Daley, Sr.	1972	Richard Harte
1967	Paul A. Chandler, M.D.	1973	Dominic P. DiMaggio
	—honorary	1973	J. Frank Gerrity
1967	Edwin B. Dunphy, M.D.	1973	Robert T. P. Storer, Jr.
	—honorary	1973	Frederick G. P. Thorne
1967	Mrs. Bartlett Harwood	1974	Bruce A. Beal
1967	John M. Lord	1974	William C. Mercer
	LeRoy A. Schall, M.D.	1975	Bernard R. Baldwin
1967	William F. Spang	1975	Edward Reynolds, Jr.
1967	Monte J. Wallace		William Salatich
	Colin McA. Cunningham	1976	Walter A. Rosenblith,
1968	W. Clement Stone—		Ing. Rad.
	honorary	1976	Gustave M. Solomons
	Richard W. Young, Ph.D.	1976	Mrs. Sally Stone
1970	Ephron Catlin, Jr.		Frederic Winthrop, Jr.

The concern is evident.



¹Deceased ²Resigned, 1976

Melville Chapin, Chairman Robert C. Jordan, President Ephron Catlin, Jr., Vice-President William H. Claflin, III, Treasurer Mrs. John Lowell, Secretary Elise E. Francis* Avram J. Goldberg George M. Lovejoy, Jr. George A. McLaughlin, Sr. August R. Meyer William A. Parker Henry K. Porter James I. Summers Alice W. Yancey*

*Appointed by the Commonwealth

A nursing station in action.



Executive

Robert C. Jordan, Chairman Ephron Catlin, Jr.
Melville Chapin
William H. Claflin, III
Claes H. Dohlman, M.D.
B. Thomas Hutchinson, M.D
(President of Medical Staff)
George M. Lovejoy, Jr.
Mrs. John Lowell
George A. McLaughlin, Sr.
Mrs. Robert C. Meisel
Harold F. Schuknecht, M.D.
Porter H. Smith, M.D.
Charles T. Wood

Charles T. Wood **Medical Staff Executive** B. Thomas Hutchinson, M.D. Chairman Claes H. Dohlman, M.D. George E. Garcia, M.D. Roy A. Johnson, M.D. Joseph C. Kim, M.D. John M. Kurkjian, M.D. Robert H. Lofgren, M.D. Thomas J. Mulvaney, M.D. Harold F. Schuknecht, M.D. Porter H. Smith, M.D. Taylor R. Smith, M.D. Melville Chapin Robert C. Jordan Charles T. Wood

Finance William H. Claflin, III,

Chairman Melville Chapin Robert C. Jordan

Building Subcommittee

George M. Lovejoy, Jr., Chairman Melville Chapin Mary Louise Davis Robert C. Jordan Raymond W. Lyons Charles T. Wood

Human Studies

Robert Williams, Chairman
Margery Goldman
Max L. Goodman, M.D.
W. Morton Grant, M.D.
Robert S. Kimura, D.M.Sc.
Ronald W. Lamont-Havers, M.D.
Harold F. Schuknecht, M.D.
Robert T. P. Storer, Jr.

Richard A. Thoft, M.D.

Charles T. Wood

Library and Archives Committee

Henry F. Allen, M.D., Chairman Douglas Bryant Richard Dallow, M.D. Claes H. Dohlman, M.D. Edwin B. Dunphy, M.D. Richard Gacek, M.D. James R. Hamill B. Thomas Hutchinson, M.D. John W. Irwin, M.D. Robert S. Kimura, D.M.Sc. Moses H. Lurie, M.D. Thomas J. Mulvaney, M.D. Foster Palmer Abraham Pollen, M.D. Harold F. Schuknecht, M.D. Charles Snyder, Secretary and Librarian Richard A. Thoft, M.D.

Salary

Robert C. Jordan Melville Chapin William H. Claflin, III Charles T. Wood

Personnel and Pension

Henry K. Porter, Chairman Melville Chapin J. Antony Lloyd George A. McLaughlin, Sr. Anthony P. Reis Charles T. Wood Social Service Advisory

Mrs. Robert C. Meisel, Chairman Frank G. Berson, M.D. Mrs. Malcolm Carsley Mrs. Barbara E. Corey, RN Robert Danahy Mrs. Barbara J. Dawson Ruth Farrisey, RN Louise Frye George E. Garcia, M.D. lames R. Hamill Mrs. Edgar Kent Mrs. John Lowell Moses H. Lurie, M.D. Rhoda K. Morrison Madeline S. Shipsey Richard A. Thoft, M.D. Alfred D. Weiss, M.D. Charles T. Wood

Michael Zoller, M.D.

Accreditation

Charles T. Wood, Chairman August R. Meyer Francis S. Hill Margarete L. Arndt Harold F. Schuknecht, M.D. Claes H. Dohlman, M.D. B. Thomas Hutchinson, M.D. Barbara E. Corey, RN Porter H. Smith, M.D. Herbert I. Kirshnit James R. Hamill Raymond W. Lyons Alfred D. Weiss, M.D. Barbara Houtman Max L. Goodman, M.D. Taylor R. Smith, M.D. Charles Snyder Alfred L. Weber, M.D. Madeline S. Shipsey Margery Goldman Richard Giovanoni, R.Ph.

Waiting his turn.



A patient's expression of appreciation.

Young people's waiting area in the ENT Outpatient Department.





Director

Charles T. Wood

Assistant to the Director

Margery Goldman

Associate Director for Administrative Services

Anthony P. Reis

Associate Director for

Clinical Services

James R. Hamill

Associate Director for Hospital Services

Raymond W. Lyons

Director of Development

Robert J. Vetter

Director of Nursing Services

Barbara E. Corey, RN

Director of Patient ServicesMargarete L. Arndt

Director of Personnel and Public Relations

J. Antony Lloyd

Admitting

Ruth Dorfman, R.N., Manager

Building Services

John Douglas, Director

Dietary Services

Herbert I. Kirshnit, Director

Maintenance Services

Robert Marshall, Director

Medical Records

Barbara Houtman, Director

Operating Rooms

Evelyn Brewster, RN, Director

Outpatient Department

Francis X. McCrossan,

Administrator

Carol Stearns, Chief OPD Admitting Officer

Personnel

Ruth Ann Moriarty, Manager

Purchasing and Stores

Lehan Power, Director

Scheduling

Mary Louise Davis, Manager

Social Services

Madeline S. Shipsey, Director

Volunteer Services

Rosanne Ring, Director

Executive Committee

Mrs. John Lowell, Chairman

Mrs. James I. Summers,

First Vice-Chairman

Mrs. Robert F. Kurtz, Second

Vice-Chairman

Mrs. Harold F. Schuknecht,

Treasurer

Mrs. John B. Eliot, Recording

Secretary

Mrs. Calvin A. King,

Corresponding Secretary

Mrs. Henry F. Allen

Mrs. Malcolm B. Carsley

Mrs. Edgar H. Kent

Mrs. Henry Lyman, Jr.

Mrs. Ichiro D. Okamura

Mrs. Robert C. Meisel, Immediate Past Chairman

Eyeglasses expertly fitted at the Infirmary's new Optical Shop.



Administration in action: The Accounting Department.



Members

Mrs. Henry F. Allen Mrs. Maurice Berlin

Mrs. C. J. Boulris Mrs. Harry E. Braconier

Mrs. Edwin J. Carr

Mrs. Malcolm B. Carsley Mrs. Richard B. Chapman

Mrs. Colin McA. Cunningham Miss Winifred A. Cunningham

Mrs. Richard Cary Curtis

Mrs. Richard Cary C

Mrs. Leo F. Daley Mrs. Richard Dallow

Mrs. Claes H. Dohlman

Mrs. Edgar Driscoll, Jr.

Mrs. Edwin B. Dunphy Mrs. Howard M. Ecker

Mrs. John B. Eliot

Mrs. William Ellison

Mrs. Maxwell Fish

Mrs. Albert R. Frederick, Jr.

Mrs. Richard R. Gacek

Mrs. Avram J. Goldberg

Mrs. Ralph Hinckley

Mrs. Alfred L. Hurst Mrs. Charles J. Innes

Mrs. Carl C. Johnson

Mrs. Cari C. Johnson Mrs. Victor H. Kazanjian

Mrs. Edgar H. Kent

Mrs. Edgar Fl. Kent Mrs. Calvin I. King

Mrs. Calvin I. King Mrs. Her<u>bert I.</u> Kirshnit

Mrs. Thomas R. Klein

M. D. L. F. VI.

Mrs. Robert E. Klotz

Mrs. Arnold J. Kroll

Mrs. Robert F. Kurtz

Mrs. Clarence E. Kylander

Mrs. Charles A. Lane

Mrs. John Lowell

Mrs. Henry Lyman, Jr.

Mrs. Alexander S. Macmillan, Jr. Mrs. Weld Douglass

Miss Maryellen McEvoy

Mrs. Loretta McLaughlin

Mrs. J. Wallace McMeel

Mrs. Robert C. Meisel

Mrs. Daniel Miller

Mrs. G. Gardner Monks

Mrs. William W. Montgomery

Mrs. Joseph B. Nadol

Mrs. Ichiro D. Okamura

Mrs. Grafton Perkins

Mrs. Charles D. J. Regan

Miss Florence Reid

Mrs. Aram Roopenian Mrs. Milton Rosenthal

Mrs. Perry Rosenthal

Mrs. Baruch Sachs

Mrs. Charles L. Schepens

Mrs. Harold F. Schuknecht

Mrs. David H. Scott

Mrs. Earl S. Seale

Mrs. Samuel Simons

Mrs. William A. Slade, Jr.

Mrs. Taylor R. Smith

Mrs. James I. Summers Mrs. Frederick G. P. Thorne

Mrs. Silvio von Pirquet

Mrs. Donald R. Weis

Mrs. Henry E. Wile

Mrs. William R. Wilson

Mrs. Frederick R. W. Witherby

Mrs. Manning Barry

Mrs. Yale J. Berry

Mrs. John Carroll, III

Mrs. Walter J. E. Carroll

Mrs. Thomas Cavanaugh

Mrs. Julian F. Chisholm

Mrs. Nathaniel D. Clapp

Mrs. Thomas P. Cronin

Mrs. Benjamin C. Davis

Mrs. David D. Donaldson

Mrs. Harold S. Geneen

Mrs. Robert L. Goodale

Mrs. Max L. Goodman

Mrs. W. Morton Grant

Mrs. Trygve Gundersen

Mrs. Frank L. Harrington, Jr.

Mrs. Bartlett Harwood

Mrs. Edgar M. Holmes

Mrs. Valentine Hollingsworth

Mrs. Roy A. Johnson

Mrs. Robert C. Jordan

*Mrs. Varaztad H. Kazanjian

Mrs. Clarence E. Knapp

Mrs. Robert H. Lofgren

Mrs. Alexander S. Macmillan

Mrs. David B. McClosky

Mrs. Frederick S. Moseley, III

Mrs. Stephen P. Mugar

Mrs. George M. Olive, Jr.

Mrs. Irving Pavlo

Mrs. Henri Prunaret

Mrs. Franklin Reece
*Mrs. John B. Richardson

Mrs. Karl Riemer

Mrs. Phillips H. Roland, II

Mrs. Benjamin Sachs

Mrs. William L. Saltonstall

Mrs. Ernest J. Sargeant

Mrs. Alfred W. Scott

Mrs. Henry R. Scott

Mrs. Albert E. Sloane

Mrs. Gustave M. Solomons

Mrs. George E. Stephenson

Mrs. William L. Taggart

Mrs. Thomas C. Thacher Mrs. John E. Thayer

Mrs. Robert Truesdale

Mrs. Lyon Weyburn

Mrs. Roy R. Wheeler

Mrs. Andrew N. Winslow, Jr. Mrs. Stewart C. Woodworth

Honorary Members

*Mrs. Henry Peabody

Mrs. John Ring

Associate Members

Mrs. Richard P. Breed, Jr.

Mr. and Mrs. Elliot W. Brown

Mrs. Mortimer L. Cashman

Mrs. William Endicott, II

Mrs. James P. Fenn

Mrs. Warren D. Haley

Mrs. John Hand

Mrs. John R. Haug

Mrs. J. J. Hindon Hyde

Mrs. Leonard B. Kilgore

Mrs. Thomas H. Lanma

Mrs. Thomas H. Lanman Mrs. John C. G. Loring

Mrs. Malcolm H. Masters

Mrs. Joseph T. McGrath

Mrs. Lawrence Meyns, Jr.

Mrs. George R. Minot

Mrs. Charles F. Nayor

Mrs. Richard C. Norton

Mrs. Joseph F. O'Connell

Mrs. Emerson T. Oliver Mrs. Winthrop E. Sears

Mr. and Mrs. Andre R.

Sigourney Mrs. C. Fred Smith, Jr.

Mrs. Gerard B. Townsend

Mrs. Lewis L. Wadsworth

Mr. and Mrs. Thomas Walsh

Miss Agnes Wheeler Mrs. Evelyn G. Whiton

Mrs. Royal C. Wilson

Ophthalmology

Active Staff

Honorary Staff

Chief of Ophthalmology Claes H. Dohlman, M.D.

Associate Chief of Ophthalmology Charles D. J. Regan, M.D.

Assistant Chief of Ophthalmology Richard A. Thoft, M.D.

Surgeons in Ophthalmology
S. Arthur Boruchoff, M.D.
Robert J. Brockhurst, M.D.
Thomas P. Cronin, M.D.
Claes H. Dohlman, M.D.
W. Morton Grant, M.D.
Charles D. J. Regan, M.D.
Alfred W. Scott, M.D.
David H. Scott, M.D.
Richard J. Simmons, M.D.
Taylor R. Smith, M.D.
Richard A. Thoft, M.D.

Associate Surgeons in Ophthalmology Daniel M. Albert, M.D. Lloyd M. Aiello, M.D. Richard B. Chapman, M.D. David D. Donaldson, M.D. H. MacKenzie Freeman, M.D. Carl G. Freese, M.D. Stephen J. Fricker, M.D. George E. Garcia, M.D. John R. Gehring, M.D. Warren D. Haley, M.D. Ralph H. Hinckley, M.D. Roland E. Houle, M.D. B. Thomas Hutchinson, M.D. Robert C. Lawlor, M.D. Byron S. Lingeman, M.D. J. Wallace McMeel, M.D. George M. Olive, M.D.

Michael Wiedman, M.D.

Assistant Surgeons in
Ophthalmology
Eliot L. Berson, M.D.
Charles K. Beyer, M.D.
John M. Carroll, M.D.
Leo T. Chylack, M.D.
Eugene C. Ciccarelli, M.D.
Albert R. Frederick, Jr., M.D.
Alexander R. Gaudio, M.D.
Robert A. Gorn, M.D.
Joseph C. Kim, M.D.
Mohandas M. Kini, M.D.
Arnold J. Kroll, M.D.

Baruch J. Sachs, M.D.

Joel Arthur Kraut, M.D.
Brent W. Lambert, M.D.
Deborah Pavan-Langston,
M.D.
Eeva-Liisa Martola, M.D.
Joseph Michon, M.D.
David Miller, M.D.
Robert A. Petersen, M.D.
Silvio R. von Pirquet, M.D.
Roland C. Pruett, M.D.
Richard M. Robb, M.D.
Perry Rosenthal, M.D.
John G. Sebestyen, M.D.
Harvey H. Slansky, M.D.
David S. Walton, M.D.
Donald R. Weiss, M.D.

Assistant Physician in Ophthalmology
Shirley H. Wray, M.D.

Assistants in Ophthalmology

A. Robert Bellows, M.D. Don Carl Bienfang, M.D. Chester J. Boulris, M.D. Jack F. Bowers, M.D. David G. Campbell, M.D. John B. Constantine, M.D. Robert B. Cook, M.D. Richard L. Dallow, M.D. David K. Dueker, M.D. David L. Epstein, M.D. Gault M. Farrell, M.D. Elliot M. Finkelstein, M.D. Richard P. Floyd, M.D. James M. Gordon, M.D.* Evangelos Gragoudas, M.D. David S. Greenseid, M.D. Arthur S. Grove, M.D. David A. Hill, M.D. Tatsuo Hirose, M.D. David S. Hutchison, M.D. Barry Jacobs, M.D. Eric H. Johnson, M.D. Jay H. Kaufman, M.D. Robert T. Lacy, M.D. James R. Lee, M.D. Raymond Liggio, M.D. Ernst J. Meyer, M.D. Paul E. Michelson, M.D. Peter B. Mooney, M.D. Edward Murphy, Jr., M.D. Paul E. Pataky, M.D. James T. Patten, M.D. David G. Perkins, M.D.

Charles T. Post, M.D.
Donald W. Putnoi, M.D.
Edward A. Ryan, M.D.
Kenneth A. Stampfer, M.D.
Felipe I. Tolentino, M.D.
Daniel W. Tolpin, M.D.
Clement Trempe, M.D.
Paul F. Vinger, M.D.
George A. Violin, M.D.

Consulting Chiefs of Ophthalmology Henry F. Allen, M.D. Paul A. Chandler, M.D. David G. Cogan, M.D. Edwin B. Dunphy, M.D.

Senior Consulting Surgeons in Ophthalmology D. Robert Alpert, M.D. William P. Beetham, M.D. Harry E. Braconier, M.D. Virgil G. Casten, M.D. Joseph M. Clough, M.D. Mahlon T. Easton, M. D. Trygve Gundersen, M.D. Carl C. Johnson, M.D. Brendan D. Leahey, M.D. Sumner D. Liebman, M.D. Henry A. Mosher, M.D. Ichiro D. Okamura, M.D. Irving L. Pavlo, M.D. Abraham Pollen, M.D. Karl Riemer, M.D. Charles L. Schepens, M.D. Earl S. Seale, M.D. Albert E. Sloane, M.D. Garrett L. Sullivan, M.D.

Associate Surgeons in Ophthalmology Frederick B. Breed, M.D. John M. Hill, M.D. Charles H. MacLaughlin, M.D.

Assistant Surgeons in Ophthalmology Julian F. Chisholm, M.D. Robert Kinder, M.D. Arthur M. Morrissey, M.D. Bertha Offenbach, M.D.

Services
General Eye Service
Charles D. J. Regan, M.D.,
Director

Emergency Ward Arthur S. Grove, M.D., Director

Service W. Morton Grant, M.D., Director

Glaucoma Consultation

Cornea Service
Deborah Pavan-Langston,
M.D., Director

Ocular Motility Service Stephen J. Fricker, M.D., Director

Ophthalmic Pathology
Taylor R. Smith, M.D.,
Director

Pediatric Ophthalmology Service David S. Walton, M.D.,

David S. Walton, M.D. Director

Retina Service

Charles D. J. Regan, M.D., Acting Director Neuro-Ophthalmology

Service Shirley H. Wray, M.D., Director

Resident TrainingCharles S. Foster, M.D.,
Director

The "good sleep": Infirmary anesthesiologist sustains the patient's life.

Francis I. West, M.D.



linical Fellows in phthalmology etina Service

rancis E. Cangemi, M.D. loward B. Cohen, M.D. o Swee Lim, M.D. heraphat Lopansri, M.D. eo Masciulli, M.D. erumalsamy lamperumalsamy, M.D.

Pavid Newsome, M.D. eter L. Schwartz, M.D. Iohammad Z. Wafai, M.D. larold A. Woodcome, M.D. Iatthew C. Ziemianski, M.D. Terence Daly, M.D.

ornea Service

harles S. Foster, M.D. Jary N. Foulks, M.D. Jenneth R. Kenyon, M.D. Jenry D. Perry, M.D. Javid W. Lamberts, M.D.

Ilaucoma Service Villiam P. Boger, M.D., art-time jell Dahlen, M.D. eon F. Cashwell, M.D. Iichael Roth, M.D.

leuro-Ophthalmology ervice

arron Lewis Klepach, M.D.

lectro-Physiology
Bernice Rosen, M.D.

ye Pathology sse L. Sigelmann, M.D.

luorescein aime V. Lapus, M.D.

lastic and Reconstructive urgery
ruce R. Cassidy, M.D.

ediatric Ophthalmology
Bary Elliott Bonn, M.D.

Training Grant Program
Sheldon Marc Buzney, M.D.
Hong Ming Cheng, Ph.D.
Thomas Mason Richardson,
M.D.
Delia Nai-Yueh Sang, M.D.
Jane Wang, M.D.

Residents

Maida Antigua, M.D. Ann Bajart, M.D. John Thomas, M.D. Marc C. Yoshizumi, M.D. Frank G. Berson, M.D. Philip J. Harris, M.D. Norman Blair, M.D. John Madigan, M.D. Charles D. Belcher, M.D. Stephen Sinclair, M.D. Steven Feldon, M.D. Theodore Renna, M.D. Dean J. Yimoyines, M.D. Neil Silbermann, M.D. Stanley Chang, M.D. James A. Valone, M.D. Elbert H. Magoon, M.D. Richard M. Low, M.D. Robert P. Friedlaender, M.D. Peter R. Pavan, M.D. George A. Moo-Young, M.D. Robert Alan Caine, M.D.

New England Eye Bank Maryellen McEvoy, Executive Director S. Arthur Boruchoff, M.D. Richard A. Thoft, M.D. Medical Co-Directors

Executive Committee of New England Eye Bank
S. Arthur Boruchoff, M.D.
Mrs. Richard Cary Curtis
Mr. Haynes H. Fellows, Jr.
Mr. H. Irving Grousbeck
Mr. Erick Kauders
Mrs. William A. Slade, Jr.
Mr. Arthur Stickney
Richard A. Thoft, M.D.

Chief of Otolaryngology Harold F. Schuknecht, M.D.

Surgeons in Otolaryngology William L. Hayden, M.D. Alfred L. Hurst, M.D. Robert E. Klotz, M.D. Robert H. Lofgren, M.D. John E. McKeigue, M.D. William W. Montgomery, M.D. Harold F. Schuknecht, M.D.

Associate Surgeons in Otolaryngology
Yale J. Berry, M.D.
Allan G. Edwards, M.D.
Richard R. Gacek, M.D.
C. Edward Jackson, M.D.
Roy A. Johnson, M.D.
Donald G. Keamy, M.D.
Thomas R. Klein, M.D.
John M. Kurkjian, M.D.
Clarence Kylander, M.D.
Rufus C. Partlow, M.D.
David L. Pierce, M.D.
John C. Trakas, M.D.
William R. Wilson, M.D.

Assistant Surgeons in Otolaryngology
David D. Burtner, M.D.
Robert P. Cipro, M.D.
Richard L. Fabian, M.D.
Carl M. Lieberman, M.D.
Jon B. Liland, M.D.
Joseph A. Moretti, M.D.
Stephen A. Smith, M.D.
Marshall Strome, M.D.
Ernest A. Weymuller, M.D.

Assistants in Otolaryngology
Howard M. Ecker, M.D.
Edward J. Glinski, M.D.
Edward E. Jacobs, M.D.
Ely A. Kirschner, M.D.
William G. Lavelle, M.D.
Trevor J. I. McGill, M.D.
Thomas J. Mulvaney, M.D.
Joseph B. Nadol, M.D.
Angelo Pappanikou, M.D.
Stephen A. Parker, M.D.
Alfred D. Weiss, M.D.

Subdivision of Plastic and Reconstructive Surgery

Aram Roopenian, M.D.
Senior Consulting Associate
Surgeon in Plastic and
Reconstructive Surgery
Richard L. Fabian, M.D.
Assistant Surgeon in Plastic
and Reconstructive Surgery
Howard M. Ecker, M.D.
Assistant in Plastic and
Reconstructive Surgery

Subdivision of Otolaryngologic Pathology Max L. Goodman, M.D., Director

Head and Neck Tumor Clinic
William W. Montgomery,

M.D., Director Ernest Weymuller, M.D., Associate Director

Endoscopy Service
William W. Montgomery,
M.D., Director
Thomas J. Mulvaney, M.D.,
Associate Director

Esophageal Voice Classes Ann Volk, Director

Audiology Rhoda K. Morrison, Chief Audiologist

Consulting Chief of Otolaryngology
LeRoy A. Schall, M.D.

Senior Consulting Surgeons in Otolaryngology
Walter J. E. Carroll, M.D.
Charles J. Drooker, M.D.
Maurice G. Evans, M.D.
John R. Frazee, M.D.
Robert L. Goodale, M.D.
Edgar M. Holmes, M.D.
Moses H. Lurie, M.D.
Daniel Miller, M.D.
John R. Richardson, M.D.
Sidney R. Wilker, M.D.³
Bernard Zonderman, M.D.

Honorary Staff

Department of Anesthesiology

Department of Ophthalmology

Department of Otolaryngology

Senior Consulting Surgeon in Otolaryngology
Philip Mysel, M.D.

Associate Surgeons in Otolaryngology Charles Kent, M.D. Herman J. Sternstein, M.D.³

Assistant Surgeon in Otolaryngology
Elizabeth DeBlois, M.D.

Assistant in Otolaryngology Frank W. Brady, M.D.

Associate Staff
Associate Surgeon in
Otolaryngology
Werner D. Chasin, M.D.

Assistants in Otolaryngology Robert Wayne Clubb, M.D.³ John Nicholas Vandemoer, M.D.

Consultant in Prosthodontia Peter E. Goldberg, D.D.S.⁴

Consultant in Medical Oncology
Susan Pitman, M.D.⁵

Residents

Paul E. Hammerschlag, M.D. Jerome Sugar, M.D. Michael Zoller, M.D. James Kelly, M.D. Barry Benjamin, M.D. Edward J. Reardon, M.D. David E. Nash, M.D. Richard M. Levinson, M.D. Howard G. Smith, M.D. William S. Fisher, III, M.D. Carl A. Brown M.D. Stuart H. Bentkover, M.D. Joseph H. Oyer, M.D. Elaine D. Carroll, M.D. Jeffrey P. Harris, M.D.

Chief of Anesthesiology Porter H. Smith, M.D.

Anesthesiologist Jin Woo Kim, M.D.

Associate Anesthesiologist John V. Donlon, M.D.

Assistant Anesthesiologist Daniel W. Lang, M.D.

Assistants in Anesthesiology Harry R. Frohberg, M.D. Malcolm J. Heslop, M.D. Thomas J. Keenan, M.D. Kathryn E. McGoldrick, M.D. Ismail Seda Sensel, M.D. Dae Ik Sonn, M.D.

Assistants in Anesthesiology, (Part-time) Nishan G. Goudsouzian, M.D. Miroslawa T. Jasinska, M.D. Philip W. Lebowitz, M.D. J. A. Jeevendra Martyn, M.D.

Department of Radiology Chief of Radiology Alfred L. Weber, M.D.

Radiologist Alexander S. Macmillan, Jr., M.D.

Associate Radiologist Kiyokazu J. Momose, M.D.

Assistant Radiologist Jeanne Keller, M.D. Consultants in Radio

Therapy Milford D. Schulz, M.D. Herman D. Suit, M.D. Chiu-Chen Wang, M.D.

Internal Medicine Richard A. Field, M.D., Consultant Gerald J. Doyle, M.D.

Microbiology Microbiologist Anita Mangiaracine, A.B.

Clinical Laboratory Supervisor Eleanor Bushman Howe Laboratory of Ophthalmology Claes H. Dohlman, M.D.,

Director
W. Morton Grant, M.D.
Daniel M. Albert, M.D.
David Donaldson, M.D.
Stephen J. Fricker, M.D.
Shirley H. Wray, M.D.
Leo T. Chylack, Jr., M.D.
Don C. Bienfang, M.D.
David G. Campbell, M.D.

Donovan J. Pihlaja, Ph. D. Jack Greiner, Ph. D. Hong-Ming Cheng, O. D., Ph. D.

David K. Dueker, M.D. John F. Griffin, M.D. David Epstein, M.D. Cecil K. Drinker, A.B. Charles J. Snyder, Librarian

Berman-Gund Laboratory for the Study of Retinal Degenerations

Eliot L. Berson, M.D., Director R. Bruce Szamier, Ph.D. Susan Y. Schmidt, Ph.D. Ross B. Edwards, Ph.D. Michael A. Sandberg, Ph.D. Jo Bernice Rosen, M.D.

Research Associates in Ophthalmology
Judith Jedziniak, Ph.D.
Charles E. Riva, D.Sc.
Ernst G. Wolf, Ph.D.

Eaton Peabody Laboratory of Auditory Physiology Nelson Y. S. Kiang, Ph.D., Director

Research Associates in Otolaryngology

Terrance Bourk, Ph.D.
John J. Guinan, Jr., Ph.D.
Don H. Johnson, Ph.D.
Michael Liberman, Ph.D.
Robert A. Levine, M.D.
Donald K. Morest, M.D.
Michael J. Mulroy, Ph.D.
William T. Peake, Sc.D.
Thomas F. Weiss, Ph.D.

Research Assistants in Otolaryngology

Keld Baden-Kristensen, S.M. Bertrand Delgutte, M.S. William Frezza, B.S. Thomas Holton, S.M. Thomas J. Lynch, III, S.M. Biseng Wang, M.S.

Research Support Engineers in Otolaryngology David Altmann, S.B. Alan H. Crist, B.S.

David A. Steffens, S.B. **Microcirculatory Laboratory** John Irwin, M.D., Director

Histopathology Laboratory
Harold F. Schuknecht, M.D.
William W. Montgomery, M.D.

Electron Microscopy Laboratory Robert S. Kimura, D.M.Sc.

Research Fellows in

Otolaryngology Lucia Maria Cabezudo, M.D. George G. Browning, M.D. Jacob F. Plantenga, M.D.

An operating room procedure being filmed for a TV science special.



¹Plastic and Reconstructive Surgery

²Neurotology

³Medical Otolaryngology only

⁴Restricted to Prosthodontia ⁵Restricted to Medical Oncology

epartment of phthalmology

rofessors of Ophthalmology laes H. Dohlman, M.D., hairman '. Morton Grant, M.D., avid Glendenning Cogan

ofessor of Ophthalmology aniel M. Albert, M.D.

linical Professor of phthalmology

enry F. Allen, M.D., enry Willard Williams Clinical ofessor

ssociate Professors of phthalmology

avid D. Donaldson, M.D. harles D. J. Regan, M.D. hirley H. Wray, M.D. Jeurology)
iot L. Berson, M.D. avid Miller, M.D. tephen J. Fricker, M.D.

ssociate Clinical Professors of phthalmology

arl C. Johnson, M.D.
harles L. Schepens, M.D.
ylor R. Smith, M.D.
Arthur Boruchoff, M.D.
obert J. Brockhurst, M.D.

ssistant Professors of phthalmology

ichard M. Robb, M.D.
iane Reif-Lehrer, Ph.D.
rthur S. Grove, M.D.
eo T. Chylack, M.D.
. Bruce Szamier, Ph.D.
ichard A. Thoft, M.D.
vivid S. Walton, M.D.
fathea R. Allansmith, M.D.
fichael Berman, Ph.D.
beborah Pavan-Langston, M.D.
obert A. Petersen, M.D.
harles E. Riva, D.Sc.
loyd Aiello, M.D.
On C. Bienfang, M.D.
idith Jedziniak, Ph.D.

ssistant Clinical Professors of Ophthalmology

Alfred W. Scott, M.D.
Thomas Hutchinson, M.D.
Ichard Simmons, M.D.
Ial M. Freeman, M.D.
Wallace McMeel, M.D.
Umner Liebman, M.D.
Abraham Pollen, M.D.
Charles K. Beyer, M.D.
elipe Tolentino, M.D.

ecturers on Ophthalmology andre A. Balazs, M.D.

David Maurice, Ph.D.

Principal Associate in Ophthalmology Miguel Refojo, D.Sc.

Associates in Ophthalmology Cecil K. Drinker, M.B.A. Administration) Charles Cintron, Ph.D. Instructors in Ophthalmology

Donovan J. Pihlaja, Ph.D.
David G. Campbell, M.D.
Susan Y. Schmidt, Ph.D.
Marshall Doane, Ph.D.
Evangelos Gragoudas, M.D.
William P. Boger, M.D.
David Dueker, M.D.
Ross Edwards, M.D.
David Epstein, M.D.
C. Stephen Foster, M.D.
Ann Bailey Fulton, M.D.

Clinical Instructors in Ophthalmology

David Scott, M.D. John M. Carroll, M.D. Byron Lingeman, M.D. Carl Freese, M.D. George Garcia, M.D. John Gehring, M.D. Robert Lawlor, M.D. George Olive, M.D. Richard Chapman, M.D. Ralph Hinckley, M.D. Michael Wiedman, M.D. Donald Weis, M.D. Roland Houle, M.D. Perry Rosenthal, M.D. Baruch Sachs, M.D. Elliot Finkelstein, M.D. Albert R. Frederick, M.D. Harvey Slansky, M.D. Ronald Pruett, M.D. Richard L. Dallow, M.D. Irving Pavlo, M.D. A. Robert Bellows, M.D. Mohandas Kini, M.D., Ph.D. Tatsuo Hirose, M.D. Joel Kraut, M.D. Joseph Kim, M.D. John Sebestyen, M.D.

Clinical Assistants in **Ophthalmology** Brent Lambert, M.D. Eric Johnson, M.D. Chester Boulris, M.D. Joseph Michon, M.D. Edward Murphy, M.D. Howard L. Feldman, M.D. Peter P. Gudas, M.D. Edward A. Ryan, M.D. Richard Floyd, M.D. Alexander Gaudio, M.D. James Gordon, M.D. David Greenseid, M.D. David Hutchinson, M.D. Jay Kaufman, M.D. Robert Lacy, M.D. James Lee, M.D. Ernst Meyer, M.D. Paul Michaelson, M.D. Paul Vinger, M.D.

Clinical Fellows in Ophthalmology Maida Antigua, M.D.

Ann M. Bajart, M.D. Charles D. Belcher, III, M.D. Frank G. Berson, M.D. Norman Blair, M.D. Gary Elliott Bonn, M.D. Robert A. Caine, M.D. Stanley Chang, M.D. Stephen E. Feldon, M.D. Gary Foulkes, M.D. Richard Friedlander, M.D. Philip J. Harris, M.D. Kenneth Kenyon, M.D. David Lamberts, M.D. Richard Low, M.D. John Madigan, M.D. Elbert Magoon, M.D. George A. Moo-Young, M.D. Reed Pavan, M.D. Henry Perry, M.D. Theodore Renna, M.D. Jo Bernice Rosen, M.D. Neil N. Silberman, M.D. Stephen H. Sinclair, M.D. John V. Thomas, M.D. James Valone, M.D. Dean Yimoyines, M.D. Marc O. Yoshizumi, M.D.

Research Fellows in Ophthalmology S. Marc Buzney, M.D. Hong-Ming Cheng, Ph.D. Jack V. Griener, Ph.D. Garron Klepach, M.D. Michael A. Sandberg, Ph.D. Delia Sang, M.D. Jane Wang, M.D.

Thomas M. Richardson, M.D. Henry Willard Williams Professors of Ophthalmology Emeritus

Edwin B. Dunphy, M.D. David G. Cogan, M.D.

Associate Clinical Professor of Ophthalmology, Retired Paul A. Chandler, M.D.

Assistant Clinical Professors of Ophthalmology, Retired William Parks Beetham, M.D. Trygve Gundersen, M.D. Albert E. Sloane, M.D.

Department of Otolaryngology

Walter Augustus LeCompte Professor of Otology Professor of Laryngology Harold F. Schuknecht, M.D.

Professor of Otolaryngology William W. Montgomery, M.D.

Associate Professors of Pathology
Max Lawrence Goodman, M.D.

Associate Professor of Otolaryngology
Daniel Miller, M.D.

Assistant Professors of Otolaryngology

Joseph Bronislaw Nadol, Jr., M.D. effective 12/01/76 William Rosse Wilson, M.D.

Assistant Clinical Professors of Otolaryngology

Burton Frederick Jaffe, M.D. Robert Harding Lofgren, M.D. Marshall Strome, M.D. Ernest Alfred Weymuller, Jr., M.D.

Instructors in Otolaryngology Trevor John Irving McGill, M.D. effective 09/01/76 Joseph Bronislaw Nadol, Jr., M.D. promoted 12/01/76

Clinical Instructors in Otolaryngology

Yale Joel Berry, M.D. Richard Louis Fabian, M.D. William Lee Hayden, M.D. Alfred Lionel Hurst, M.D. Edward Ellis Jacobs, Jr., M.D. Roy Allen Johnson, M.D. Eli Abram Kirschner, M. D. Robert Eugene Klotz, M.D. William Gaynor Lavelle, M.D. Carl Marcus Lieberman, M.D. Joseph Anthony Moretti, M.D. Thomas John Mulvaney, M.D. Angelo John Pappanikou, M.D. Rufus Cornelius Partlow, Jr., M.D. Stephen Anthony Smith, M.D. John Christos Trakas, M.D.

Lecturer on Otolaryngology Robert Shigetsugu Kimura, D.M.Sc.

Lecturers on Otolaryngology Richard Raymond Gacek, M.D. Walter Altar Rosenblith, Ph.D.

Visiting Lecturer on Otolaryngology Yoshihiko Murakami, M.D.

Senior Research Associate in Otolaryngology Nelson Yuan-sheng Kiang, Ph.D.

Principal Associate in Otolaryngology John Wellington Irwin, M.D.

Research Fellows in Otolaryngology George Gordon Browning, M.D. Lucia Maria Cabezudo, M.D. Trevor John Irving McGill, M.D.

promoted 09/01/76 Jacob Frans Plantenga, M.D. Raymond Romand, Ph.D. terminated 08/14/76

Clinical Fellows in Otolaryngology

Barry Joel Benjamin, M.D. Paul Eric Hammerschlag, M.D. James Haynes Kelly, M.D. Jerome Orry Sugar, M.D. Michael Zoller, M.D.

Department of Ophthalmology Surgical and Research Staffs

*AHMAD, Afzal and Pruett, R. C.: "The Fundus in Mongolism." Arch. Ophthalmol. 94:772-776, May 1976.

Ahmad, Afzal (See TOLENTINO, F. I.)

Aiello, Lloyd M., OKISAKA, S. and Kuwabara, T.: "The Effects of Laser Photocoagulation in the Retinal Capillaries." Am. J. Ophthalmol. 80:591-601, Oct. 1975.

ALLEN, Henry F.: "Chlamydial Eye Disease." Chapter in: Ocular Viral Disease. International Ophthalmology Clinics. 15(4) Winter 1975. Boston. Little, Brown. 1975. pp. 257-268.

ALLEN, Henry F. and Grove, A. S.: "Early Acute Aseptic Iritis after Cataract Extraction." Trans. Am. Acad. Ophthalmol. Otolaryngol. 81:OP-145-OP-150, Jan.-Feb. 1976.

ALLEN, Henry F.: "Prevention of Infection in the Ophthalmologic Office." Chapter 1 in: Gordon's Medical Management of Ocular Disease. 2d ed. Edited by Edward A. Dunlap. Hagerstown, Md. Harper & Row, 1976. pp. 1-5.

Bellows, A. Robert, CYKIERT, R. C., Albert, D. M. and Cornog, J. L., Jr.: "Suspected Multiple Primary Tumors of the Lacrimal and Parotid Glands." Arch. Ophthalmol. 94:1530-1533, Sept. 1976.

Bellows, A. Robert (See CHYLACK, L. T., Jr.)

BERSON, Eliot L.: "Retinitis Pigmentosa and Allied Retinal Diseases: Electrophysiological Findings." Trans. Am. Acad. Ophthalmol. Otolaryngol. 81:OP-659-OP-666, July-Aug. 1976.

BERSON, Eliot L.: "Hereditary and Nutritionally Induced Retinal Degenerations: Electrophysiological and Biochemical Studies." Birth Defects. 12:359-372, 1976.

BERSON, Eliot L.: "Night Blindness: Some Aspects of Management." Chapter in: Clinical Low Vision by Eleanor E. Faye. Boston. Little, Brown, 1976. pp. 301-306.

BERSON, Eliot L., Hayes, K. C., Schmidt, S. Y., Rabin, A. R. and Watson, G.: "Retinal Degeneration in Cats Fed Casein. II. Supplementation with Methionine, Cysteine, or Taurine." Invest. Ophthalmol. 51:52-58, Jan. 1976.

BERSON, Eliot L., Schmidt, S. Y. and Rabin, A. R.: "Plasma Amino-Acids in Hereditary Retinal Disease. Ornithine, Lysine, and Taurine." Br. J. Ophthalmol. 60:142-147, Feb. 1976.

Berson, Eliot L. (See RABIN, A. R., SCHMIDT, S. Y.)

Beyer, Charles K. and REEH, M. J.: "Surgical Correction of Anophthalmic Entropion and Ectropion of the Lower Lid." Chapter in: *Techniques of Anophthalmic Cosmesis*. Edited by P. Guibor and M. Guibor. New York. Stratton. 1976. pp. 43-61.

Beyer, Charles K., REEH, M. J. and Shannon, G. M.: Practical Ophthalmic Plastic and Reconstructive Surgery by Merrill J. Reeh, Charles K. Beyer, Gerald M. Shannon. Philadelphia. Lea & Febiger. 1976. 203 p.: ill.

BIENFANG, Don C.: "Crossing Axions in the Third Nerve Nucleus." Invest. Ophthalmol. 14:927-931, Dec. 1975.

BIENFANG, Don C., Kuwabara, T. and Peuschel, S. M.: "The Richner-Hanhart Syndrome: Report of a Case with Associated Tyrosinemia." Arch. Ophthalmol. 94:1133-1137, July 1976.

Bienfang, Don C. (See CHYLACK, L. T., Jr.) BORUCHOFF, S. Arthur: "Cornea-Vitreal Contact." Trans. Ophthalmol. Soc. U. K. 95:417-421, Sept. 1976.

BORUCHOFF, S. Arthur and Donshik, C.: "Medical and Surgical Management of Corneal Thinnings and Perforations." Chapter in: Ocular Viral Disease. International Ophthalmology Clinics. 15(4) Winter 1975. Boston. Little, Brown. 1975. pp. 111-123.

BROCKHURST, Robert J.: "Nanophthalmos with Uveal Effusion: A New Clinical Entity." Arch. Ophthalmol. 93:1289-1299, Dec. 1975.

BROCKHURST, Robert J.: "Optic Pits and Posterior Retinal Detachment." Trans. Am. Ophthalmol. Soc. 73:264-291, 1975.

BROCKHURST, Robert J. and Chishti, M. I.: "Cicatricial Retrolental Fibroplasia: Its Occurrence without Oxygen Administration and in Full Term Infants." Albrecht von Graefes Arch. Klin. Ophthalmol. 195:113-138, 1975.

Brockhurst, Robert J. and SILVA, V. B.: "Hemorrhagic Detachment of the Peripheral Retinal Pigment Epithelium." Arch. Ophthalmol. 94:1295-1300, Aug. 1976.

Brockhurst, Robert J. (See SMITH, T. R.) CAMPBELL, David G., Simmons, R. J. and Grant, W. M.: "Ghost Cells as a Cause of Glaucoma." Am. J. Ophthalmol. 81:441-450, April 1976.

Campbell, David G., SHIELDS, M. B., Simmons, R. J. and Hutchinson, B. T.: "Iris Nodules in Essential Iris Atrophy." Arch. Ophthalmol. 94:406-410, March 1976.

CAVANAGH, H. Dwight: "Herpetic Ocular Disease: Therapy of Persistent Epithelial Defects." Chapter in: Ocular Viral Disease. International Ophthalmology Clinics. 15(4) Winter 1975. Boston. Little, Brown. 1975. pp. 67-88.

CAVANAGH, H. Dwight, Pihlaja, D., Thoft, R. A. and Dohlman, C. H.: "The Pathogenesis and Treatment of Persistent Epithelial Defects." Trans. Am. Acad. Ophthalmol. Otolaryngol. 81:OP-754-OP-769, Sept.-Oct. 1976.

Cavanagh, H. Dwight (See PATTEN, J. T.)

CHENG, Hong M. and Chylack, L. T., Jr.: "Properties of Rat Lens Phosphofructokinase." Invest. Ophthalmol. 15:279-287, April 1976.

CHENG, Hong M. and Chylack, L. T., Jr.: "pH-Dependent Temperature Sensitivity of Rat Lens Phosphofructokinase." Invest. Ophthalmol. 15:505-509, June 1976.

CHYLACK, Leo T., Jr., Beinfang, D. C., Bellows, A. R., et al.: "Ocular Manifestations of Juvenile Rheumatoid Arthritis." Am. J. Ophthalmol. 79:1026-1033, June 1975.

CHYLACK, Leo T., Jr.: "Mechanism of 'Hypoglycemic' Cataract Formation in the Rat Lens. l. The Role of Hexokinase Instability." Invest. Ophthalmol. 14:746-755, Oct. 1975.

CHYLACK, Leo T., Jr.: "The Characterization of the Hexokinases in Several Tissues of the Calf Eye Invest. Ophthalmol. 14:854-862, Nov. 1975.

CHYLACK, Leo T., Jr. and Schaefer, F. L.: "Mechanism of 'Hypoglycemic' Cataract Formation in the Rat Lens. II. Further Studies on the Role of Hexokinase Instability." Invest. Ophthalmol. 15:519-528, July 1976.

Chylack, Leo T., Jr., SPECTOR, R., Lightfoote, J. B. and Cohen, P.: "Should Tonometry Screening be done by Technicians Instead of Physicians?" Arch. Int. Med. 135:1260-1262, Sept. 1975. Chylack, Leo T., Jr. (See CHENG, H. M., GREINER, J. V.)

COGAN, David G., Donaldson, D. D., Kuwabara, T., et al.: "Microcystic Dystrophy of the Cornea. A Partial Explanation for Its Pathogenesis." Arch. Ophthalmol. 92:470-474, Dec. 1974.

COGAN, David G.: Ophthalmic Manifestations of Systemic Vascular Disease. By David G. Cogan. Philadelphia. Saunders. 1974. xii, 187 pp.

COGAN, David G.: "Ocular Involvement in Disseminated Intravascular Coagulopathy." Arch. Ophthalmol. 93:1-8, Jan. 1975.

COGAN, David G.: "Lighting and Health Hazards." Chapter in: The Occupational Safety and Health Effects Associated with Reduced Levels of Illumination. Proceedings of a Symposium, July 11-12, 1974, Cincinnati, Ohio. U. S. DHEW, PHS, CDC, DHEW Publ. No. (NIOSH) 74-142, 1975. pp. 28-33.

COGAN, David G.: "An Introduction to Eye Movements." Chapter in: The Nervous System. Volume 2: The Clinical Neurosciences. Edited by Donald B. Tower. New York. Raven Press. 1975. pp. 481-486.

COGAN, David G. and Wray, S. H.: "Vascular Occlusions of the Eye from the Cardiac Myxomas." Am. J. Ophthalmol. 80:369-403, Sept. 1975.

COGAN, David G., Zee, D. S., Robinson, D. A. and Engel, W. K.: "Analysis of Eye Movements in Members of a Family with Late-onset, Dominantly Inherited Cerebellar Ataxia." Trans. Am. Neurol. Assoc. 100:98-103, 1975.

COGAN, David G.: "Retinal Vascular Accidents." Chapter 13 in: The Eye and Systemic Disease. Edited by Frederick A. Mausolf. St. Louis. Mosby. 1975. pp. 223-233.

Cogan, David G., APPEN, R. E. and Wray, S. H.: "Central Retinal Artery Occlusion." Am. J. Ophthalmol. 79:374-381, Mar. 1975.

Cogan, David G., ROBISON, W. G., Jr. and Kuwabara, T.: "Lysomes and Melanin Granules of the Retinal Pigment Epithelium in a Mouse Model of the Chediak-Higashi Syndrome." Invest. Ophthalmol. 14:312-317, April 1975.

Cogan, David G., CHAR, D. H. and Sullivan, W. R.: "Immunologic Study of Nonsyphilitic Interstitial Keratitis with Vestibulo-auditory Symptoms." Am. J. Ophthalmol. 80:491-494, Sept. 1975.

gan, David G., KUWABARA, T. and Johnson, C.: "Structure of the Muscles of the Upper Eye-." Arch. Ophthalmol. 93:1189-1197, Nov. 1975. >>GAN, David G.: "V. Everett Kinsey: A Biophical Sketch." Invest. Ophthalmol. 15:334-5, May 1976.

DGAN, David G.: "Fibrin Clots in the Choriopillaris and Serous Detachment of the Retina onin Lecture)." Ophthalmologica. 172:298-307, 76

OGAN, David G.: "Ocular Manifestations of longy Degeneration." Birth Defects. 12:527-534, 76.

OGAN, David G., Yee, R. D. and Gittinger, J.: "apid Eye Movements in Myasthenia Gravis. I. Gnical Observations." Arch. Ophthalmol. \$\,\):1083-1085, July 1976.

Gan, David G., KUWABARA, T. and Perkins, G.: "Sliding of the Epithelium in Experimental Grneal Wounds." Invest. Ophthalmol. 15:4-14, J., 1976.

(gan, David G., SANDERSON, P. A. and I wabara, T.: "Optic Neuropathy Presumably (used by Vincristine Therapy." Am. J. Ophthal-131. 81:146-150, Feb. 1976.

Ggan, David G., YEE, R. D. and Zee, D. S.: phthalmoplegia and Dissociated Nystagmus in retalipoproteinemia." Arch. Ophthalmol. 5571-575, April 1976.

gan, David G., YEE, R. D., Trese, M., et al.: cular Manifestations of Acute Pandysautonia." Am. J. Ophthalmol. 81:740-744, June 76.

(gan, David G., ZEE, R. S., Yee, R. D., Robinsh, D. A. and Engel, W. K.: "Ocular Motor conormalities in Hereditary Cerebellar Ataxia." Jain. 99:207-234, June 1976.

Ogan, David G., YEE, R. D., Zee, D. G., et al.: "apid Eye Movements in Myasthenia Gravis. II. L'ectro-Oculographic Analysis." Arch. Ophthal-101. 94:1465-1472, Sept. 1976.

Ggan, David G., YEE, R. D., Savage, D. D., et : "Plasma Cell Infiltration of the Conjunctiva sociated with Pancytopenia, Dermatitis, and Hyclonal Gammopathy." Am. J. Ophthalmol. 1:486-491, Sept. 1976.

bgan, David G. (See WRAY, S. H.)

Onstable, Ian J., NUMATA, T. and Whitney, D. 1 "Physical Properties of Experimental Vitreous Lembranes. I. Tensile Strength." Invest. Ophthalol. 14:148-152, Feb. 1975.

ONSTABLE, Ian J. and Swann, D. A.: "Vitreous bstitution with Gases." Arch. Ophthalmol. : 416-419, June 1975.

ALLOW, Richard L.: "Ultrasonography in Ocuand Orbital Trauma." Chapter in: Practical anagement of Ocular Injuries. International hthalmology Clinics. 14(4) Winter 1974. ston. Little, Brown. 1974. pp. 23-56.

ALLOW, Richard L.: "Evaluation of Unilateral ophthalmos with Ultrasonography: Analysis of 8 Consecutive Cases." Laryngoscope. :1905-1919, Nov 1975.

DALLOW, Richard L., Momose, K. J., Weber, A. L. and Wray, S. H.: "Comparison of Ultrasonography, Computerized Tomography (EMI Scan), and Radiographic Technique in Evaluation of Exophthalmos." Trans. Am. Acad. Ophthalmol. Otolaryngol. 81:OP-305-OP-322, March-April 1976.

Dallow, Richard L., BRISMAR, J., Davis, K. R. and Brismar, G.: "Unilateral Endocrine Exophthalmos. Diagnostic Problems in Association with Computed Tomography." Neuroradiology. 12:21-24, Oct. 1976.

DOHLMAN, Claes H., Friend, J., Kalevar, V., Yagoda, D. and Balazs, S. B.: "The Glycoprotein (Mucus) Content of Tears from Normals and Dry Eye Patients." Exp. Eye Res. 22:359-365, April 1976.

Dohlman, Claes H., RALPH, R. A. and Doane, M. G.: "Clinical Experience with a Mobile Ocular Perfusion Pump." Arch. Ophthalmol. 93:1039-1043, Oct. 1975.

Dohlman, Claes H., DE CEVALLOS, E., and Reinhart, W. J.: "Comeal Thickness in Glaucoma." Ann. Ophthalmol. 8:177-182, Feb. 1976.

Dohlman, Claes H. (See CAVANAGH, H. D., Pihlaja, D. J.)

DONALDSON, David D.: Atlas of External Diseases of the Anterior Segment of the Eye. Vol. V. The Crystalline Lens. By David D. Donaldson, St. Louis. Mosby. 1976. xiii, 209 pp. illus.

DONALDSON, David D.: "Stereophotographic Systems." Chapter in: Ophthalmic Photography. International Ophthalmology Clinics. 16(2) Summer, 1976. Boston. Little, Brown. 1976. pp. 109-131.

Donaldson, David D. (See COGAN, D. G., PATTEN, J. T.)

EPSTEIN, David L.: "Reversible Unilateral Lens Opacities in a Diabetic Patient." Arch. Ophthalmol. 94:461-463, March 1976.

FARIS, Bishara, Schepens, C. L. and Freeman, H. M.: "Scleral Dehiscences, Anterior Staphyloma and Retinal Detachment. Part I. Incidence and Pathogenesis." Trans. Am. Acad. Ophthalmol. Otolaryngol. 79: OP-851-OP-835, Nov.-Dec. 1975.

FREEMAN, H. MacKenzie, Schepens, C. L. and Faris, B.: "Scleral Dehiscences, Anterior Staphyloma, and Retinal Detachment. Part 2. Surgical Management." Trans. Am. Acad. Ophthalmol. Otolaryngol. 79:OP-854-OP-857, Nov.-Dec. 1975.

Faris, Bishara (See FREEMAN, H. M.)

FREEMAN, H. MacKenzie, Tolentino, F. I., Schepens, C. L. and Lui, H-S.: "Recent Advances in Vitreous Surgery." Trans. Ophthalmol. Soc. Rep. China. 14:9-12, 1975.

FREEMAN, H. MacKenzie and Schepens, C. L.: "Innovations in the Technique for Drainage of Subretinal Fluid Transillumination and Choroidal Diathermy." Mod. Prob. Ophthalmol. 15:119-126, 1975.

FREEMAN, H. MacKenzie, Schepens, C. L. and Tolentino, F. L.: "The Current Status of Vitreous Membrane Surgery." Mod. Prob. Ophthalmol. 15:261-271, 1975.

FREEMAN, H. MacKenzie and Boyd, B.: "Per sonal Interview: Innovations in the Drainage of Sub-Retinal Fluid." Highlights Ophthalmol. 14:558-568, 1975-76.

FREEMAN, H. MacKenzie, Hirose, T. and Schepens, C. L.: "Innovations in the Technique for the Drainage of Subretinal Fluid." Jap. J. Clin. Ophthalmol. 30:705-708, 1976.

Freeman, H. MacKenzie (See FARIS, B., TOLENTINO, F. I.)

FRICKER, Stephen J.: "Use of Velocity and Acceleration Measurements in the Evaluation of Strabismus Patients." Chapter in: Orthoptics: Past, Present, Future. Edited by Sally Moore, Joyce Mein, and Lynn Stockbridge. Symposia Specialists. Miami. 1976. pp. 113-121.

Friend, Judith (See DOHLMAN, C. H., THOFT, R. A.)

GARCIA, George E.: "Continuous Wear of Gas-Permeable Contact Lenses in Aphakia." Contact & Intraocular Lens Medical Journal. 2:29-34, Jan.-Mar. 1976.

Geary, Patricia (See NORTH, R. D., PAVAN-LANGSTON, D.)

GRAGOUDAS, Evangelos S. and McMeel, J. W.: "Treatment of Rhegmatogenous Retinal Detachment Secondary to Proliferative Diabetic Retinopathy." Am. J. Ophthalmol. 81:810-819, June 1976. Gragoudas, Evangelos S. and DELORI, F. C.: "Examination of the Ocular Fundus with Monochromatic Light." Ann. Ophthalmol. 81:703-709, June 1976.

Grant, W. Morton (See CAMPBELL, D. G., WAND, M.)

GREINER, Jack, V., Chylack, L. T., Jr. and Pihlaja, D. J.: "Letter to the Editors: Photomacrography of the Crystalline Normal and Cataractous Lens." Exp. Eye Res. 22:281-284, March 1976.

GROVE, Arthur S.: "Orbital Evaluation: The Role of Radionuclide Examination." Chapter in: *Nuclear Ophthalmology*. Edited by Millard N. Croll, et al. New York. Wiley. 1976. pp. 199-215.

Grove, Arthur S. (See ALLEN, H. F.) Gutow, Gary S. (See TOLENTINO, F. I.)

Hayes, K. C. (See BERSON, E. L., SCHMIDT, S. Y.)

Hirose, Tatsuo, TOYOFUKO, H., and Schepens, C. L.: "Retinal Detachment after Congenital Cataract Surgery." Jap. J. Clin. Ophthalmol. 30:153-157, 1975.

HIROSE, Tatsuo and Larson, E.: "Photostimulator for Local VER." Jap. J. Ophthalmol. 20:347-352, 1976

HIROSE, Tatsuo, and McMeel, J. W.: "Argon Laser Treatment of Neovascular Membranes in the Macula in Old Eyes." Jap. J. Clin. Ophthalmol. 30:191, 1976.

Hirose, Tatsuo (See FREEMAN, H. M., TOLENTINO, F. I.)

HOLT, William S., Regan, C. D. and Trempe, C.: "Acute Posterior Multifocal Placoid Pigment Epitheliopathy." Am. J. Ophthalmol. 81:403-412, April 1976.

Department of Ophthalmology Surgical and Research Staffs

Hutchinson, B. Thomas (See Campbell, D. G.) JOHNSON, Carl C.: "External Levator Resection." Chapter in: Oculoplastic Surgery and Trauma. Edited by Pierre Guibor. New York. Stratton. 1976. pp. 1-19.

Johnson, Carl C. (See Cogan, D. G.)

KINDER, Robert S. L. and Cowett, R. M.: "Hyphema in Infancy and Childhood: A Brief Review and Report of an Unusual Case." J. Ped. Ophthalmol. 13:139-140, May 1976.

KRAUT, Joel A.: "Instruction of the Ophthalmology Resident: Massachusetts Eye and Ear Infirmary." Chapter in Low Vision: A Symposium Marking the Twentieth Anniversary of the Lighthouse Low Vision Service. Edited by Eleanor E. Faye and Clare M. Hood. Springfield. Thomas. 1976. pp. 267-272. Lapus, Jaime V. (See TOLENTINO, F. 1.)

McMeel, J. Wallace, GALINOS, S. O., Trempe, C. L. and Schepens, C. L.: "Chorioretinal Anastomoses after Argon Laser Photocoagulation." Am. J. Ophthalmol. 82:241-245, Aug. 1976.

McMeel, J. Wallace (See GRAGOUDAS, E. S., HIROSE, T., Schepens, C. L.)

Mehaffey, Leathem, III (See RABIN, A. R.) Miller, David and STEGMEN, R.: "A Human Model of Allergic Conjunctivitis." Arch. Ophthalmol. 93:1354-1358, Dec. 1975.

MILLER, David, Brooks, S. M. and Mobilia, E.: "Adrenochrome Staining of Soft Contact Lenses." Ann. Ophthalmol. 8:65-67, Jan. 1976.

MILLER, David and Marchevsky, A.: "Letter to the Editor: An Inexpensive Blowgun Device for Anterior Chamber Paracentesis." Exp. Eye Res. 22:193-194, Feb. 1976.

MILLER, David, Brooks, S. M. and Wolf, E.: "The Effect of the Honeycomb on Glare Function." Arch. Ophthalmol. 94:451-454, March 1976.

MILLER, David and Marchevsky, A.: "Effect of Soft Contact Lenses on Limbal Wound Healing." Exp. Eye Research. 22:611-614, June 1976.

Momose, Kiyokasu J. (See DALLOW, R. L.)

NORTH, Richard D.: "Presumptive Viral Keratoconjunctivitis, Mononucleosis, and the Oncogenic Viruses." Chapter in: Ocular Viral Disease. International Ophthalmology Clinics. 15(4) Winter 1975. Boston. Little, Brown. 1975. pp. 211-227.

NORTH, Richard D., Pavan-Langston, D. and Geary, P.: "Herpes Simplex Virus Types 1 and 2: Therapeutic Responses to Antiviral Drugs." Arch. Ophthalmol. 94:1019-1021, June 1976.

North, Richard D. (See PAVAN-LANGSTON, D.)

Novalis, George (See TOLENTINO, F. 1.)

Okamura, Ichiro D. and SUGAR, H. S.: "Ocular Findings Six Years After Intravitreal Silicone Injection." Arch. Ophthalmol. 94:612-615, April 1976.

PATTEN, James T., Donaldson, D. D., Hydiuk, R. A., et al.: "Fleck (Mouchetée) Dystrophy of the Cornea." Ann. Ophthalmol. 8:25-32, Jan. 1976.

PATTEN, James T., Cavanagh, H. D. and Pavan-Langston, D.: "Penetrating Keratoplasty in Acute Herpetic Corneal Perforations." Ann. Ophthalmol. 8:287-294, March 1976. PAVAN-LANGSTON, Deborah: Ocular Viral Disease. International Ophthalmology Clinics. 15(4) Winter 1975. Edited by Deborah Pavan-Langston. Boston. Little, Brown. 1975. xii, 275 p.: ill.

PAVAN-LANGSTON, Deborah: "Diagnosis and Management of Herpes Simplex Ocular Infection." Chapter in: Ocular Viral Disease. International Ophthalmology Clinics. 15(4) Winter 1975. Boston. Little, Brown. 1975. pp. 19-35.

PAVAN-LANGSTON, Deborah: "Varicella-Zoster Ophthalmicus." Chapter in: Ocular Viral Disease. International Ophthalmology Clinics. 15(4) Winter 1975. Boston. Little Brown. 1975. pp. 171-185.

PAVAN-LANGSTON, Deborah: "New Drug Delivery Systems." Chapter in: Symposium on Ocular Therapy, Volume 9. By Irving H. Leopold and Robert P. Burns. New York. Wiley. 1976. pp. 17-32.

PAVAN-LANGSTON, Deborah and Langston, R. H. S.: "Recent Advances in Antiviral Therapy." Chapter in: Ocular Viral Disease. International Ophthalmology Clinics. 15(4) Winter 1975. Boston. Little, Brown. 1975. pp. 89-100.

Pavan-Langston, Deborah and LANGSTON, R. H. S.: "Penetrating Keratoplasty for Herpetic Keratitis: Decision-Making and Management." Chapter in: Ocular Viral Disease. International Ophthalmology Clinics. 15(4) Winter 1975. Boston. Little, Brown. 1975. pp. 125-140.

PAVAN-LANGSTON, Deborah, Langston, R. H. S. and Geary, P. A.: "Idoxuridine Ocular Insert Therapy: Use in Treatment of Experimental Herpes Simplex Keratitis." Arch. Ophthalmol. 93:1349-1351, Dec. 1975.

PAVAN-LANGSTON, Deborah, North, R. D. and Geary, P.: "ARA AMP—A Highly Soluble New Antiviral Drug." Ann. Ophthalmol. 8:571-579, May 1976.

PAVAN-LANGSTON, Deborah and Buchanan, R. A.: "Vidarabine Therapy of Simple and IDU-Complicated Herpetic Keratitis." Trans. Am. Acad. Ophthalmol. Otolaryngol. 81:OP-812-OP-825, Sept.-Oct. 1976.

Pavan-Langston, Deborah (See NORTH, R. D., PATTEN, J. T.)

Perkins, David G. (See Cogan, D. G.)

Pihlaja, Donovan J., HENRIQUEZ, A. S. and Dohlman, C. H.: "Surface Ultrastructure in Alkali-Burned Rabbit Cornea." Am. J. Ophthalmol. 81:324-331, March 1976.

Pihlaja, Donovan J. (See CAVANAGH, H. D., GREINER, J. V.)

PRUETT, Ronald C.: "The Pleomorphism and Complications of Posterior Hyperplastic Primary Vitreous." Am. J. Ophthalmol. 80:625-629, Oct. 1975.

Pruett, Ronald C. (See AHMAD, A.)

RABIN, Arnold R., Mehaffey, L., III and Berson, E. L.: "Blue Cone Function in the Retina of the Cat." Vision Res. 16:799-801, 1976.

Rabin, Arnold R. (See BERSON, E. L.)

REGAN, Charles D. J.: "Retinal Detachment: Prospects for Visual Recovery." Chapter in: Clinical Low Vision. By Eleanor E. Faye. Boston. Little, Brown. 1976. pp. 269-275.

Regan, Charles D. (See HOLT, W. S.)

ROBB, Richard M.: "The Role of Optokinetic Nystagmus in Assessing Vision in Infants." Chapt in: Proceedings of the Symposium on Pediatric Ophthe mology. Parma, Italy. Oct. 1974. pp. 65-67.

ROBB, Richard M.: "Developmental Defects of the Symposium on Pediatric Ophthalmongy. Parma, Italy. Oct. 1974. pp. 378-380.

Robb, Richard M. and CURRAN, R. E.: "Isolate Foveal Hypoplasia." Arch. Ophthalmol. 94:48-50 Jan. 1976.

ROSENTHAL, Perry: "A Clinical Evaluation of the Rx56 Contact Lens." Contact & Intraocular Lens Medical Journal. 2:20-25, July-Sept. 1976.

Schepens, C. L., POMERANTZEFF, O., and Eng D.: "Variation of Energy Density in Argon Laser Photocoagulation." Arch. Ophthalmol. 93:1033-1035, Oct. 1975.

SCHEPENS, Charles L., Delori, F., Rogers, F. J., et al.: "Optimized Underwater Diathermy for Vitrous Surgery." Ophthal. Surg. 6:82-89, Winter, 1975.

Schepens, Charles L., POMERANTZEFF, O., Kaneko, H., Donovan, R. H., and McMeel, J. W. "Effect of the Ocular Media on the Main Wavelengths of Argon Laser Emission." Invest. Ophthal mol. 15:70-77, Jan. 1976.

Schepens, Charles L. (See FARIS, B., FREEMAN H. M., Hirose, T., McMeel, J. W., TOLENTINO, F. l.)

SCHMIDT, Susan Y., Berson, E. L. and Hayes, K. C.: "Retinal Degeneration in Cats Fed Casein. I. Taurine Deficiency." Invest. Ophthalmol. 15:47-52 Jan. 1976.

SCHMIDT, Susan Y., Berson, E. L. and Hayes, K. C.: "Retinal Degeneration in the Taurine Deficient Cat." Trans. Am. Acad. Ophthalmol. Otolaryngol 81:OP-687-OP-693, July-Aug. 1976.

Schmidt, Susan Y. (See BERSON, E. L.)

SEBESTYEN, J. G.: "A Self-Retaining Contact Lens for Slit-Lamp Examination of the Fundus and for Photocoagulation Treatment." Am. J. Ophthalmol. 81:683-684, May 1976.

SIMMONS, Richard J.: "The Vitreous in Glaucoma." Trans. Ophthalmol. Soc. U. K. 95: 422-428, Sept. 1975.

Simmons, Richard J. and SHIELDS, M. B.: "Urinary Calculus during Methazolamide Therapy." Am. J. Ophthalmol. 81:622-624, May 1976.

Simmons, Richard J. and SHIELDS, M. B.: "Combined Cyclodialysis and Cataract Extraction." Trans. Am. Acad. Ophthalmol. Otolaryngol. 81:OP-286-OP-297, March-April 1976. Also in: Ophthal. Surg. 7:62-73, Summer 1976.

Simmons, Richard J. (See Campbell, D. G.)

SMITH, Taylor R. and Brockhurst, R. J.: "Cellula Blue Nevus of the Sclera." Arch. Ophthalmol. 94:618-620, April 1976.

THOFT, Richard A. and Friend, J.: "Permeability of Regenerated Epithelium." Exp. Eye Res. 21:409-416, 1975.

Department of Otolaryngology Surgical and Research Staffs

HOFT, Richard A. and Friend, J.: "Corneal pithelial Changes During Midterm Storage." Evest. Ophthalmol. 15:82-88, Feb. 1976. hoft, Richard A. (See CAVANAGH, H. D.) plentino, Felipe I., LIU, H. S., Schepens, C. L., al.: "Experimental Vitreous Surgery. XIII. Opency Partial Vitrectomy through Pars Plana Incipn." Arch. Ophthalmol. 93:1023-1029. Oct. 175.

blentino, Felipe, LIU, H. S., Schepens, C. L., et .: "Experimental Cataract Fragmentation: Instruentation and Laboratory Evaluation." Ophthalic Surg. 7:58-64, Spring 1976.

OLENTINO, Felipe I., Freeman, H. M., Schepis, C. L. and Hirose, T.: "Pars Plana Vitrectomy. eoperative Evaluation." Trans. Am. Acad. phthalmol. Otolaryngol. 81:OP-358-OP-370, lay-June 1976.

OLENTINO, Felipe I., Lapus, J. V., Novalis, G., empe, C. L., Gutow, G. S. and Ahmad, A.: luorescein Angiography of Degenerative Lesions the Peripheral Fundus and Rhegmatogenous etinal Detachment." Chapter in: *Retinal Detachent*. International Ophthalmology Clinics. 16(1) pring, 1976. Boston. Little, Brown. 1976. pp. 3-29.

OLENTINO, Felipe I., Schepens, C. L. and Freean, H. M.: Vitreoretinal Disorders: Diagnosis and lanagement. By Felipe I. Tolentino, Charles L. chepens, and H. MacKenzie Freeman. Philadelnia. Saunders. 1976. xvii, 659 pp. illus.

plentino, Felipe I. (See FREEMAN, H. M.) empe, Clement (See HOLT, W. S., McMeel, J. //, TOLENTINO, F. I.)

AND, Martin and Grant, W. M.: "Thynoxamine ydrochloride: Effects on the Facility of Outflow ad Intraocular Pressure." Invest. Ophthalmol. 5:400-403, May 1976.

/atson, Gail (See BERSON, E. L.) /olf, Ernst (See MILLER, D.)

/RAY, Shirley H., Kuwabara, T. and Sanderson, : "Menkes' Kinky Hair Disease: A Light and Elecon Microscopic Study of the Eye." Invest. Ophialmol. 15:128-138, Feb. 1976.

/RAY, Shirley H., Cogan, D. G. and Arnason, B. i.: "Experimental Allergic Encephalomyelitis: Pasve Transfer by the Intraocular Injection of Sensized Cells." Arch. Neurol. 33:183-185, March 376.

VRAY, Shirley H., Cogan, D. G., Kuwabara, T., : al.: "Adrenoleukodystrophy with Disease of the ye and Optic Nerve." Am. J. Ophthalmol. 2:480-485, Sept. 1976.

Vray, Shirley H., TABIRA, T. and Webster, H. eF.: "Multiple Sclerosis Cerebrospinal Fluid Prouces Myelin Lesions in Tadpole Optic Nerves." lew Engl. J. Med. 295:644-649, Sept. 16, 1976. Vray, Shirley H., TABIRA, T. and Webster, H. eF.: "Demyelinating Activity of Cerebrospinal luid from Multiple Sclerosis Patients Treated in a lew Model System, the Optic Nerves of Xenopus adpoles." Trans. Am. Neurol. Assoc. 100:103-106, 976.

Vray, Shirley H. (See COGAN, D. G., DAL-OW, R. L.)

CHASIN, Werner D.: "Sections on the Nose. Sections on Hearing, with Goodman, Allen C." From: Current Pediatric Therapy. Edited by Sidney S. Gellis and Benjamin M. Kagan. Philadelphia. Saunders. 1976. pp. 105-109, 518-525.

CHASIN, Werner D.: "The Upper Respiratory Passages (Nose, Throat, and Sinuses) in Bronchial Asthma: Mechanisms and Therapeutics. Edited by E. B. Weiss and M. S. Segal. Boston. Little, Brown. 1976. pp. 491-502.

Chasin, Werner D. and LEE, S. P.: "Otologic Assessments." Chapter in: *Physiologic Measures of* the Audio-Vestibular System. Edited by L. J. Bradford. New York. Academic Press. 1975. pp. 13-36.

DUNN, Rosemary A. and Morest, D. K.: "Receptor Synapses without Synaptic Ribbons in the Cochlea of the Cat." Proc. Nat. Acad. Sci. USA. 72:3599-3603, 1975.

FABIAN, Richard L. and Miller, D.: "Meibomian Gland Carcinoma of the Ocular Adnexa." Trans. Am. Acad. Ophthalmol. Otolaryngol. 82:ORL-546-ORL-550, Sept.-Oct. 1976.

GACEK, Richard R.: "The Ear." Chapter in: Anatomy of the Guinea Pig. By Gale Cooper and Alan Schiller. Cambridge, Mass. Harvard University Press. 1975. pp. 363-368.

GACEK, Richard R.: "Innervation of the Vestibular Labyrinth." Chapter in: *The Vestibular System*. Edited by Ralph F. Naunton. New York. Academic Press. 1975. pp. 21-29.

GACEK, Richard R.: "Localization of Laryngeal Motor Neurons in the Kitten." Laryngoscope. 85:1841-1861, Nov. 1975.

GACEK, Richard R.: "Hereditary Abductor Vocal Cord Paralysis." Ann. Otol. Rhinol. Laryngol. 85:90-93, Jan.-Feb. 1976.

GACEK, Richard R.: "Schwannoma of the Jugular Foramen." Ann. Otol. Rhinol. Laryngol. 85:215-224, March-April 1976.

GACEK, Richard R.: "Mastoid and Middle Ear Cavity Obliteration for Control of Otitis Media." Ann. Otol. Rhinol. Laryngol. 85:305-309, Maylune 1976.

GACEK, Richard R., Wang, C. C., Cummings, C. C., Goodman, M. L. and Weymuller, E., Jr.: "Grand Rounds: Massachusetts Eye and Ear Infirmary: Tumor Clinic." Ann. Otol. Rhinol. Laryngol. 85:139-146, Jan.-Feb. 1976.

GACEK, Richard R. and Lyon, M. J.: "Fiber Components of the Recurrent Laryngeal Nerve in the Cat." Ann. Otol. Rhinol. Laryngol. 85:460-471, Jul.-Aug. 1976.

GOODMAN, Max L., Rivers, R. E. and Irwin, J. W.: "Mast Cells in Allergy." From: Recent Advances in Critical Microcirculatory Research. 8th European Conference on Microcirculation. Le Touquet, 1974. Edited by D. H. Lewis. Basel. Karger. 1975. Bibliotheca Anatomica, number 13. pp. 188-189.

GOODMAN, Max L., Montgomery, W. W. and Minette, L.: "Pathologic Findings in Gouty Cricoarytenoid Arthritis." Arch. Otolaryngol. 102:27-29, Jan. 1976.

Goodman, Max L. and STRIEDER, D. J.: "Presentation of a Case. Case 42-1975 of the Case Records of the Massachusetts General Hospital." N. Engl. J. Med. 293:866-871, Oct. 1975.

Goodman, Max L., KADISH, S. and Wang, C. C.: "Olfactory Neuroblastoma: A Clinical Analysis of 17 Cases." Cancer. 37:1571-1576, March 1976.

Goodman, Max L. and METZGER, S. A.: "Chondrodermatitis Helicis: A Clinical Re-Evaluation and Pathological Review." Laryngoscope. 86:1402-1412, Sept. 1976.

Goodman, Max L. (See GACEK, R. R.) Irwin, John W. (See GOODMAN, M. L.)

HARDY, James M. and Montgomery, W. W.: "Osteoplastic Frontal Sinusotomy: An Analysis of 250 Operations." Ann. Otol. Rhinol. Laryngol. 85:523-532, July-Aug. 1976.

JOHNSON, Don H. and Kiang, N. Y. S.: "Analysis of Discharges Recorded Simultaneously from Pairs of Auditory-Nerve Fibers." Biophys. J. 16:719-734, 1976.

KIANG, Nelson Y. S.: "Stimulus Representation in the Discharge Patterns of Auditory Neurons." Chapter in: *The Nervous System. Volume 3: Human* Communication and Its Disorders. Edited by Donald B. Tower. New York. Raven Press. 1975. pp. 81-96.

Kiang, Nelson Y. S. (See JOHNSON, D. H.)

KIMURA, Robert S.: "Experimental Pathogenesis of Hydrops." Arch. Otorhinolaryngol. 212:263-275, 1976.

McGILL, Trevor J. I.: "Carcinomatous Encephalomyelitis with Auditory and Vestibular Manifestations." Ann. Otol. Rhinol. Laryngol. 85:120-126, Jan.-Feb. 1976.

McGILL, Trevor, J. I. and Schuknecht, H. F.: "Human Cochlear Changes in Noise Induced Hearing Loss." Laryngoscope. 86:1293-1302, Sept. 1976.

MILLER, Daniel: "Panel Discussion on Glottic Tumors. III. Management of Glottic Carcinoma.". Laryngoscope. 85:1435-1439, Sept. 1975.

Miller, Daniel (See FABIAN, R. L., MULVANEY, T. J.)

MONTGOMERY, William W.: "Surgery to Prevent Aspiration." Arch. Otolaryngol. 101:679-682, Nov. 1975.

MONTGOMERY, William W. and Smith, S. A.: "Congenital Laryngeal Defects in the Adult." Ann. Otol. Rhinol. Laryngol. 85:491-497, Jul.-Aug. 1976



"Meds": Medication section on a patient floor.

Publications

Department of Anesthesiology

Montgomery, William W. (See GOODMAN, M. L., HARDY, J. M.)

MOREST, Donald K.: "Local Circuit Neurons in the Medial Geniculate Body of the Cat." Neurosciences Res. Prog. Bull. 13:367-376, 1975.

Morest, Donald K. (See DUNN, Rosemary A.)

MORETTI, Joseph A.: "Sensori-Neural Hearing Loss Following Radiotherapy to the Nasopharynx." Laryngoscope. 86:598-602, April 1976.

MORETTI, Joseph A.: "Highly Placed Jugular Bulb and Conductive Deafness: Secondary to Sinusojugular Hypoplasia." Arch. Otolaryngol. 102:430-431, July 1976.

Mulroy, Michael J. (See WEISS, T. F.)

MULVANEY, Thomas J.: "Maintaining Minimal Occluding Volume." J. Emergency Nursing. 2:17-18, Sept.-Oct. 1976.

MULVANEY, Thomas J. and Miller, D.: "Endolaryngeal Cryosurgery: An Improved Technique." Arch. Otolaryngol. 102:226-229, April 1976.

NADOL, Joseph B., Jr.: "Hearing Loss of Acquired Syphilis: Diagnosis Confirmed by Incudectomy." Laryngoscope. 85:1888-1897, Nov. 1975.

NADOL, Joseph B., Jr., Weiss, A. D. and Parker, S. W.: "Vertigo of Delayed Onset after Sudden Deafness." Ann. Otol. Rhinol. Laryngol. 84:841-846, Nov.-Dec. 1975.

Parker, Stephen W. (See NADOL, J. B., Jr.)

Pike, C. L. (See WEISS, T. F.)

Rivers, Rhonda E. (See GOODMAN, M. L.) SCHUKNECHT, Harold F.: "Surgeon's Workshop: Myringoplasty." Clinical Otolaryngology. 1:53-65, 1976

SCHUKNECHT, Harold F.: "Pathophysiology of Endolymphatic Hydrops." Arch. Otorhinolaryngol. 212:253-262, 1976.

SCHUKNECHT, Harold F.: "Pathology of the Sensorineural System." Chapter in: *The Nervous System. Volume 3: Human Communication and Its Disorders.* Edited by Donald B. Tower. New York. Raven Press. 1975. pp. 231-243.

SCHUKNECHT, Harold F.: "Positional Nystagmus of the Benign Paroxysmal Type." Chapter in: *The Vestibular System*. Edited by Ralph F. Naunton. New York. Academic Press. 1975. pp. 421-428.

SCHUKNECHT, Harold F. and Belal, A. A.: "The Utriculo-Endolymphatic Valve: Its Functional Significance." J. Laryngol. Otol. 89:985-996, Oct. 1975.

Schuknecht, Harold F. (See McGILL, T. J. I., WATANUKI, K.)

Slansky, Bernard D. (See WEBER, A. L.)
Smith, Stephen A. (See MONTGOMERY, W. W.)
SNYDER, Charles: "The Investigation of Horace
Green." Laryngoscope. 85:2012-2022, Dec. 1975.
STROME, Marshall: "Choanal Antresia—An
Updated Approach." Trans. Am. Acad. Ophthalmol. Otolaryngol. 82:ORL-499-ORL-503, Jul.Aug. 1976.

Strome, Marshall, HENGERER, A. S. and Jaffe, B. F.: "Injuries to the Neonatal Larynx from Long-Term Endotracheal Tube Intubation and Suggested Tube Modification for Prevention." Ann. Otol. Rhinol. Laryngol. 84:764-770, Nov.-Dec. 1975. Turner, R. G. (See WEISS, T. F.)

WATANUKI, Kozo and Schuknecht, H. F.: "A Morphological Study of Human Vestibular Epithelia." Arch. Otolaryngol. 102:583-588, Oct. 1976.

Weiss, Alfred D., GRANICK, S. and Kleben, M. H.: "Relationships between Hearing Loss and Cognition in Normally Hearing Aged Persons." J. Gerontol. 31:434-440, July 1976.

Weiss, Alfred D. (See NADOL, J. B., Jr.)

WEISS, Thomas F., Mulroy, M. J., Turner, R. G. and Pike, C. L.: "Turning of Single Fibers in the Cochlear Nerve of the Alligator Lizard: Relation of Receptor Morphology." Brain Research. 115:71-90, 1976.

WEYMULLER, Ernest A., Jr.: "Unsuspected Intravestibular Schwannoma." Arch. Otolaryngol. 101:630-632, Oct. 1975.

Weymuller, Ernest A., Jr. (See GACEK, R. R.) WILSON, William R. and Allansmith, M. R.: "Rapid, Atraumatic Method for Obtaining Nasal Mucus Samples." Ann. Otol. Rhinol. Laryngol. 85:391-393, May-June 1976.

Department of Radiology

MOMOSE, K. Jack and Kalisher, L.: "The Use of Xeroradiography in the Investigation of Diseases Occurring in the Central Nervous System." Am. J. Roentgenol. Radium Ther. Nucl. Med. 125:662-670, Nov. 1975.

Momose, K. Jack (See DALLOW, R. L. (OPH)) Weber, Alfred L., PFISTER, R. C., Smith, E. H., Wilkinson, R. H., and May, D. A.: "Congenital Asymmetry (Hemihypertrophy) and Abdominal Disease." Radiology. 116:685-693, Sept. 1975.

Weber, Alfred L. and KADIR, S.: "X-Ray of the Month: Lymphoepithelioma of the Nasopharynx." Ann. Otol. Rhinol. Laryngol. 84:865-866, Nov.-Dec., 1975.

Weber, Alfred L. and FLOYD, W. N.: "X-Ray of the Month: Bilateral Acoustic Neurinomas." Ann. Otol. Rhinol. Laryngol. 85:147-148, Jan.-Feb. 1976.

Weber, Alfred L., SOLIS, O. and Roberson, G.: "X-Ray of the Month: Juvenile Nasopharyngeal Angiofibroma." Ann. Otol. Rhinol. Laryngol. 85:415-416, May-June 1976.

WEBER, Alfred L. and Slansky, B. D.: "X-Ray of the Month: Mucopyocele of the Frontal Sinus." Ann. Otol. Rhinol. Laryngol. 85:544-545, Jul.-Aug. 1976.

WEBER, Alfred L. and Guralnick, W.: "X-Ray of the Month: Ameloblastoma." Ann. Otol. Rhinol. Laryngol. 85:692-693, Sept.-Oct. 1976. Weber, Alfred L. (See DALLOW, R. L. (OPH)) Donlon, John V. (See GOUDSOUZIAN, N. G. GOUDSOUZIAN, Nishan G., Donlon, J. V. an Savarese, J. J.: "Re-evaluation of Dosage and Durtion of Action of d-Tubocurarine in the Pediatric Age Group." Anesthesiology. 43:416-425, Oct. 1975.

Nursing Services

in: Nursing Care of the Patient with Medical-Surgica Disorders. Edited by Harriet Moidel, Elizabeth G lin and Bernice Wagner. 2d ed. New York. McGraw-Hill. 1976. pp. 1042-1065. DUPONT, Jeanne: "What to do for Common Ey Emergencies." Nursing 76. 6:17-19, May 1976.

CULLIN, Irene C.: "Disorders of the Eye." Chap-

Administration

WOOD, Charles T.: Interrelated Programs for Optomum Cost-Effectiveness in Hospital Management. E. Charles T. Wood. Damon. Needham Heights, M 1976.

WOOD, Charles T.: Health Services Manager. "Split-Cost Accounting: A More Precise and Equable Way to Assign Patient Costs." Published by AMACOM, a division of American Managemer Associations. September 1976. p. 8



Careful adjustment of dressing after throat surgery.

Contribution Card ☐ I would like to donate \$___ _____ to the Infirmary Unrestricted Fund. ☐ I would like to donate \$___ _ to the Infirmary Building Fund. My contribution is being sent with this card. ☐ I would like to pledge \$_ to the Infirmary Building Fund. I will expect you to contact me as to my preference for a payment schedule. ver 25 Years of Service iss Dorothy Campanella rs. Antoinette Christie Name iss Dorothy Landers, RN rs. Rita Lovely r. Raymond Lyons Street r. Philip Maguire iss Anita Mangiaracine City State Zip iss Ellen McCarthy, RN r. Robert McLaughlin Your contribution is tax deductible. rs. Dorothy A. Pearl If you would like additional information about specific gift opportunities, please conr. Lloyd Ramsdell tact Mr. Herbert G. Howard, Director of Development. rs. Hattie Roberts iss Madeline Shipsey iss Mollie Silverman iss Ruth Straitiff iss Ann E. Stromberg **Bequest and Estate Planning Information** Years of Service iss Emilie Farnsworth The future treatment and cure of those whose sight, hearing, or speech is threatrs. Jessie O. Jones ened depends upon your long-range thoughtfulness and planning. By including the r. Charles J. Snyder Massachusetts Eye & Ear Infirmary in your will or estate plan, you can help meet future needs in the fields of specialized medical care, research, and education for Years of Service iss Evelyn Brewster, RN the years to come. iss Mary DiVincenzo ☐ I am pleased to inform you ☐ I am very interested in obtaining hn Irwin, M.D. that I have included the information which will help me with rs. Elizabeth Wade Massachusetts Eye & Ear my estate planning. Infirmary in my estate plan. I understand there is no obligation on my part in requesting this information. Name Street ver One Hundred Hours City State Zip fiss Anne Collins liss Winifred Cunningham liss Jacqueline A. Daly liss Lena Farro Ir. James Flaherty 1iss Ondine Frohberg Thousands of persons have benefitted directly and indirectly from the unique services liss Glenna Kelly 1r. Jeff Mattson of the New England Eye Bank, now in its 31st year. The Eye Bank is located in the liss Penelope T. Miller Massachusetts Eye and Ear Infirmary, and serves five New England states. For more information about becoming an eye donor, please fill out and mail this card. ☐ Please send me an eye donor ☐ I am interested in receiving more information about the application form. New England Eye Bank. 976 Annual Report of Mass. Eye & Editor, Antony Lloyd; Name esign, Erus Cevoli; over Photography, Michael Lutch hotography, Alison Bass, Bradford He Address Antony Lloyd, Michael Lutch, Colin Palr inting, Woodland Publishing Co.

Zip

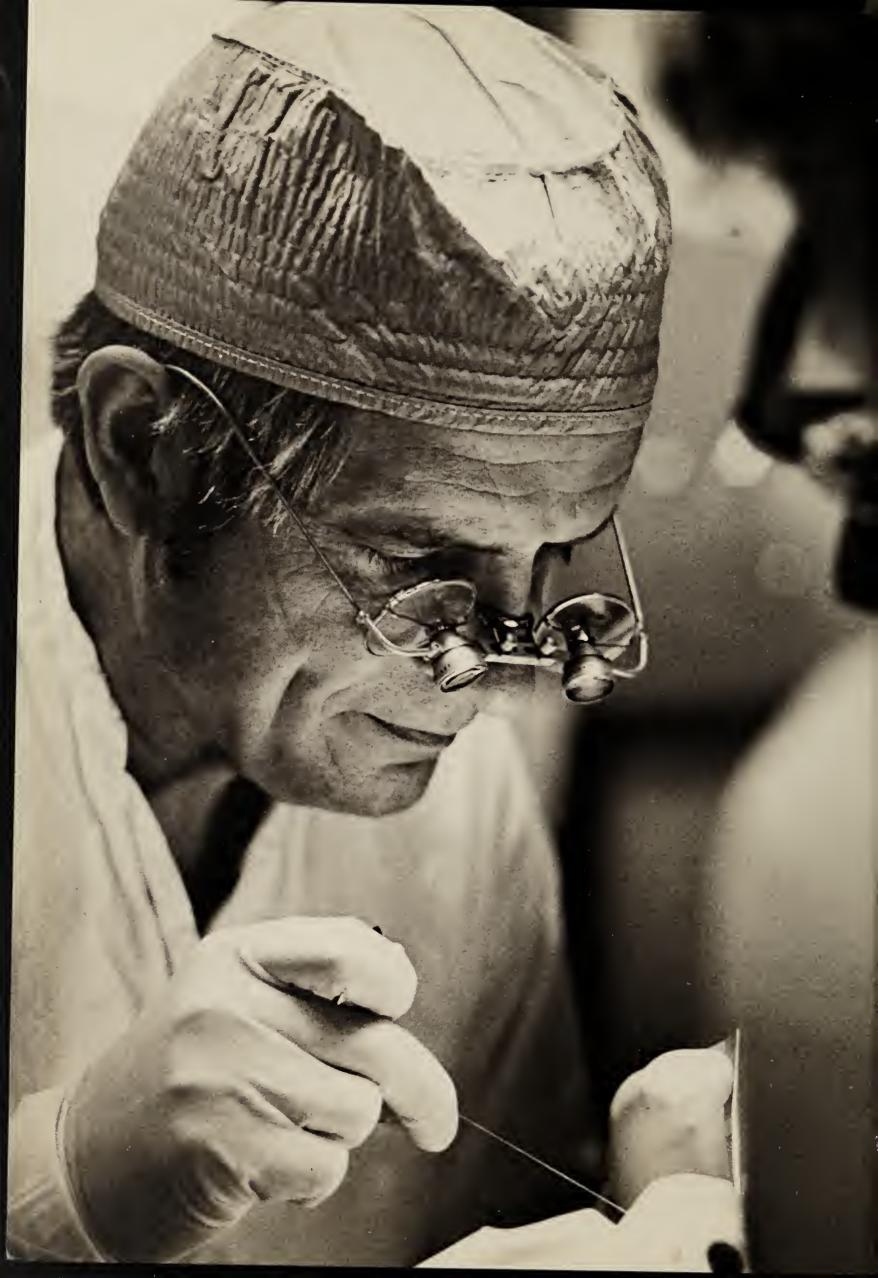
State

ypography, Monotype Composition Control in U.S.A.

City

Massachusetts Eye and Ear Infirmary 243 Charles Street Boston, MA 02114





THE Massachusetts Eye and Ear Infirmary offered emergency care to more than 35,000 patients during 1977. Double the number seen at the Infirmary ten years ago, these emergency patients came from all over New England and in some cases, from origins as far-flung as Africa, he Middle East and Europe. Most arrived as "walk-ins" but a growing number came by ambulance like the patient shown on

the cover of this report. Many were transferred to the Infirmary from other hospitals for the kind of expert specialized care they could find in few other places. The injuries and disorders that brought them here ranged from the commonplace (conjunctivitis, chemical burns, nosebleeds or swimmer's ear) to the rare (detached retinas, Meniere's Disease — a disorder of the inner ear, or epiglottitis — a throat

disorder).

In number and in type, these patients reflected the Infirmary's growing stature in the Boston area as a major "point-of-entry" for the acute care of eye, ear, nose and throat problems. In the picture on the opposite page, an Infirmary ophthalmologist performs delicate eye surgery on an emergency patient.

Contents

The Massachusetts Eye and Ear Infirmary is an internationally renowned center for the research and treatment of disorders of the eye, ear, nose and throat. The Infirmary also serves as a teaching hospital for the Harvard Medical School, training physicians in the specialites of ophthalmology and otolaryngology.

- 2 Report of the Chairman and President
- 4 Report of the Director
- 6 Report of the Chief of Ophthalmology
- 8 Report of the Chief of Otolaryngology
- 10 Portrait of a Hospital 1977
- 14 Comparative Statistics
- 15 Financial Statement
- 20 Medical Staff
- 26 Publications
- 31 Service Award Recipients

As we write this report we are actually well into the fiscal year following September, 1977. We have survived the blizzard of '78 and continue to maintain an efficient and financially solvent hospital. This is no mean task these days. Incidentally, while we still have the storm of '78 in mind, our sincere thanks to all you loyal people who helped to keep our hospital in business when everything in business was closed down. This effort is much appreciated by us and the community.

During our fiscal year ending last September, we were visited by the Joint Commission on Accreditation of Hospitals, and we continue our accreditation for an additional two years. Our new building is filling in as we proceed with the plans set forth in our original building program. This will give us some sorely needed space to cover a number of hospital requirements as contemplated. In this connection, the hospital is in the process

of refinancing its debt structure, paying certain short-term debt and thereby freeing up certain cash flow for new equipment and annually recurring needs. Also, we are still wrestling with our parking lot problem. We hope to find some solution within our means as only the combined patience of our users and lot managers makes survival possible.

During the past year, we have worked with the medical and administrative staffs to further define and codify the organization of the hospital. We feel that considerable progress has been made, and we are continuing this effort. We are also in the process of reviewing the role of the Trustee at our hospital. In these changing times, we are now experiencing a review of corporate governance, and we find the use of volunteer time a must.

We continue to have success with our system of unit charges for patient care developed by our Director, Charles T. Wood. Each patient pays not an averaged per-patient, per-day rate, but only for s vices used. We hope this system will be followed elsewhere.

Teaching and research in our specialties proceeds at a high level and a reported elsewhere in these pages by ou Chiefs. Care for thousands of patients in these specialties is maintained by ou highly competent staff. We thank them all. We welcome aboard our new Associate Director and Administrator, Jeffrey R. Kelly. Mr. Kelly comes to us with a strong background in hospital administration, and we wish him every success.

Melville Chapin
Chairman

Robert C. Jordan President

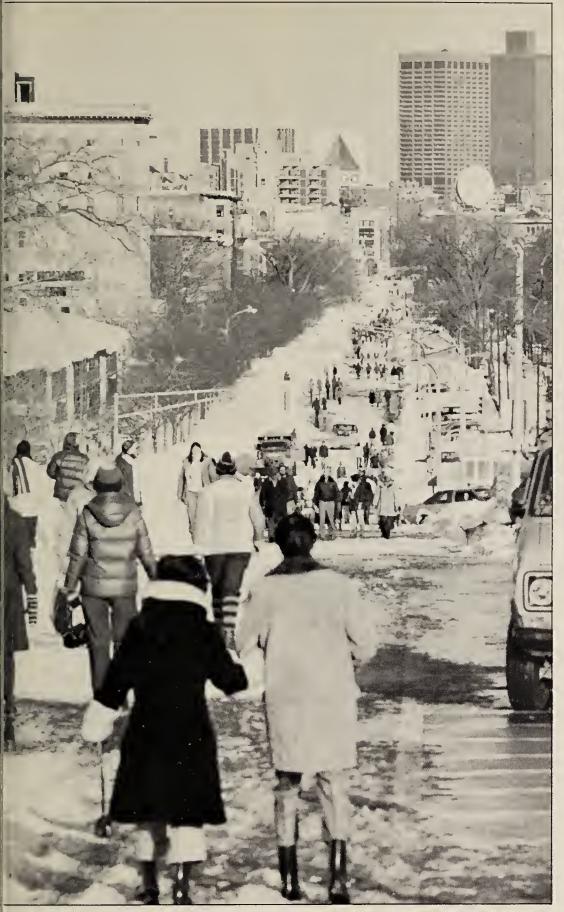
Melville Chapin, Chairman



Robert C. Jordan,



Report of the Chairman and the President







During the blizzard of '78, business in Boston ground to a halt — with the exception of hospitals, food suppliers and other emergency services. Public and private transportation shut down and Beacon Street became one long parade of people on foot.

(Top) At the Infirmary, the nursing staff, along with many other employees, worked double and triple shifts to keep the hospital open.

(Bottom) A skeleton maintenance crew stayed on the job throughout the blizzard.

National Health Insurance was endorsed by the Secretary of Health, Education and Welfare. President Carter proposed a nine per cent "ceiling" on hospital revenue increases. The state's Certificate of Need process came under close scrutiny as hospitals opted for enabling legislation. Public awareness of the staggering costs involved in quality medical care grew. Pressures to ensure equal access and a single standard of care increased.

These were the issues and the challenges that crossed my desk this year and defined the changing regulatory climate for our own specialty hospital and for so many other health care institutions. Whether local or national, consumer or provider, the issues of 1977 posed critical and extraordinarily complex questions about the state of American health care. It is clear to all of us — administrators, trustees, physicians and personnel — that these pressures will not go away. Rather, they are here to stay and multiply as harbingers of the major governmental decisions that are certain to affect the delivery of health care throughout the country.

Yet I am optimistic — supremely optimistic about the Infirmary's ability to accommodate these pressures and continue to grow. More than many other hospitals, I find the Mass. Eye and Ear in a



unique position to adjust to these swiftchanging needs and pressures while continuing, at the same time, to meet our patients' high expectations for care.

Welcome proof of our ability to meet those exacting standards came this year with the news that we had once again been awarded full two-year accreditation by the Joint Commission on Accreditation of Hospitals. The Joint Commission's decision to renew our accreditation came after an intensive onsite inspection of our new facility in May.

The completion of that facility, a magnificent hospital, teaching and research complex rising fourteen stories tall, has given me particular cause for optimism. For the past year, we have been housed in a building that is designed to carry us into the years beyond 2000 — one that is uniquely flexible to our changing requirements for space. The new Infirmary not only allows us to relieve the tremendous pressure for space in many of our departments now; it gives us the option for controlled growth as resources become available.

The remarkable success of our new split-cost accounting system is further assurance of our resilience. This system, as you know, recognizes three distinct categories of costs that relate directly to the three essential elements of a hospital stay. These are the "hospitalization cost" (each patient's equitable share of the expense of scheduling, admitting, record-keeping, billing, and of maintaining and administering the hospital); the room and board or "daily rate"; and the cost of clinical or nursing care. Now entering its third year, this system has proved itself on several fronts.

Over the past two years, it has markedly improved the efficiency of our

hospital operations and helped contair the growth of our overall costs. This accounting system also gives us an unusu advantage with the rising inpatient tre toward shorter lengths of stay. While hospitals relying on the traditional arrangement of averaging out all costs on per-patient, per-day basis may find their selves inadequately reimbursed, our three-year-old contract with Blue Cross of Massachusetts allows us full reimbursement for services rendered regardle of the drop in patient days.

Even more significant is the potential value of this split-cost accounting system as a powerful and credible tool feeducating our public about the true cos of health care. With such a system, the health care consumer can finally identify what services s/he is paying for. With such a system, we can finally show everyone — government agencies, legislators, third party payers and the publication—exactly how our costs are derived anywhy they are what they are.

As one giant step toward containing our "hospitalization costs", the Infinimary became one of the first health carrinstitutions in the Boston area to launch an ambitious energy conservation program. This novel program has attracted the attention of state energy officials where working now on ways to incorporate energy conservation incentives into the present reimbursement formulas for Massachusetts hospitals.

In our patient care and research areas, two developments this year in paticular have strengthened my confidencin our ability to grow in stature as a renowned center for research and treatment. One was the announcement of plans to build a new Rhinolaryngology Laboratory for research into the treat-

Report of the Director

nent of injuries and diseases of the nose and throat. Made possible by generous private grant, this laboratory complex is cheduled to open in the upcoming year. Another was the opening of our own nternal Medicine Unit in July to provide our staff physicians with increased consulation services.

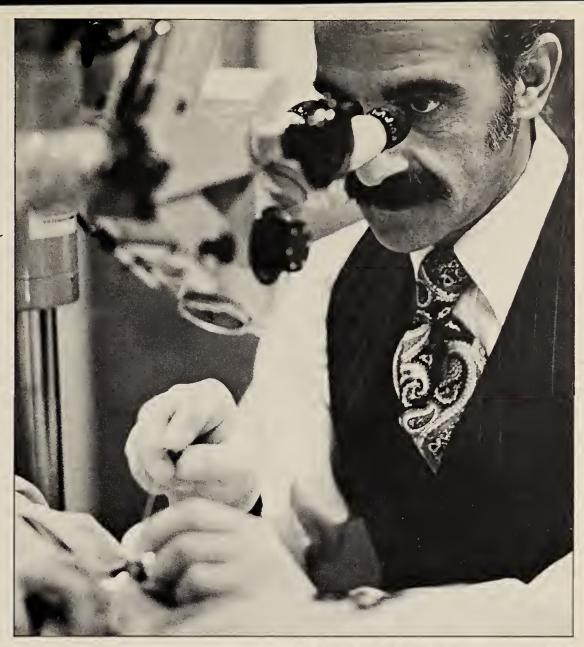
As much as 1977 was a year of 'taking stock" and assuming new roles, it was also a time of renewing community ies and looking back at our own achievements. Perhaps the most successful of our efforts in reaching out to the nearby community was Healthfest '77 in April which we organized with the cooperation of the Beacon Hill Civic Association and Massachusetts General Hospital.

Later in the year, our Social Service Department celebrated 70 years of pioneering history with a two-day symposium on meeting the needs of people with hearing and visual loss. I know I am peaking for many of the people who attended this special event when I say it was — truly — one of the highlights of he year.

Together, these accomplishments more than justify my feelings of optimism. Yet it is the people of the Inirmary, whose faces you will see throughout this report, that make me certain of our future in this "brave new world." These are the men and women who reathe life into an institution devoted to he well-being of others, and it is to them we must look in the coming years of trial and challenge.

Charles Wood

Charles T. Wood





(Top) Using a microscope to amplify the ear, an Infirmary physician is able to surgically alleviate the build-up of fluid in a child's ear. Excessive fluid in the middle ear is a common and sometimes chronic source of ear infection in children.

(Bottom) With the skilled assistance of a nurse, a physician examines the lacrimal (tear) duct of an emergency eye patient.

MANY important projects have been successfully implemented this year including further expansion of our clinical and research facilities and changes in our administrative and organizational structure. Among our other successes, we now have a totally new residency program, the largest fellowship training program in the country, a considerably expanded research program, and a new medical consultation unit of which to be proud. The generous help of many staff members has undoubtedly helped to bring about each of these successes, and their efforts should be praised.

Teaching – A massive revision of the residency training program was launched in July of this year. It was the culmination of an intensive two-year planning period on the part of a great many individuals on the staff as well as the residents themselves, the Teaching Committee, and the Director of Residency Training. The previous system of

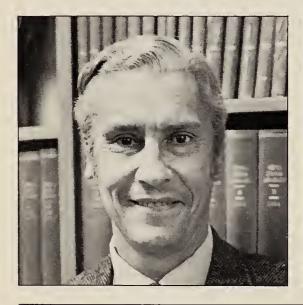
two residents starting every three months is being phased out, and starting in July of this year, all eight residents begin their training at the same time. The phase-out of the old system will present some logistical difficulties over the next two years, but from then on, the system should be simpler to manage for everyone.

The new residents now receive a two-week practical introductory course when they first arrive, and we are indebted to the staff members who helped out with this new course this year. The entire curriculum has been extensively revised, allowing for earlier exposure to surgery and more teaching, including morning subspecialty conferences and Saturday morning lectures. A new rotation at the Peter Bent Brigham Hospital has been added in addition to the rotation at Children's Hospital. The residents will also attend the Lancaster Course for two months at the end of their first year.

The introduction of ophthalmol-

ogy as a specialty to Harvard Medical students continues to be a popular me cal school course. On the post-resider level, 32 fellows are now in training at Infirmary in the various subspecialties the field. The staff now receives Conting Medical Education credits for attendance at the weekly staff conferences he in the subspecialties.

Personnel – There were fewer changes in personnel this year than in previous years — a welcome sign of our greater stability in staff. As always, however, there were a few departures. Dav. G. Campbell, M.D., left in the summe to take up an academic position in the South. Deborah P. Langston, M.D., resigned her position as Director of the Cornea Service and has taken up new responsibilities at the Peter Bent Brigha Hospital as well as at the Infirmary. Two phthalmologists from the part-time staleft during the year for new pastures: Pale. Michelson, M.D., and James M.







Report of the Chief of Ophthalmology

Claes H. Dohlman, M.D.

The measurement of visual response after surgery becomes an act of trust between this physician and his young patient.

An ophthalmologist studies a series of fluorescein angiograms taken in the Infirmary's Fluorescein Laboratory. These angiograms are used as a diagnostic tool to highlight the abnormal leaking blood vessels that characterize diabetic retinopathy, an eye disorder.

Gordon, M.D.

However, a number of new young phthalmologists have been added to the ctive staff. C. Stephen Foster, M.D., as been recruited for the full-time staff nd formally assumed his position as Director of Residency Training in July of his year. David H. Scott, M.D., retired fter long and selfless service on the Board f Surgeons but will continue on the active Staff.

Research – Perhaps one of the nost notable achievements this year has een the great increase in grant support ecured by the Infirmary for research. Ineed, there has been an overall tripling of rant support over the past three years. A ery substantial Core Center Grant, the ountry's largest Training Grant, has een secured during that time along with any individual research grants.

To accommodate this increase in esearch activity, new facilities have pened during the year, including the

Electron Microscopy Laboratory supervised by Daniel M. Albert, M.D. This laboratory is now totally operational with facilities for electron microscopy and tissue culture and the recent acquisition of a new scanning electron microscope. New additions to the full-time research staff include Peter John Anderson, Ph.D., in the Howe Laboratory of Ophthalmology and Michael A. Sandberg, Ph.D., in the Berman-Gund Laboratory for the Study of Retinal Degeneration.

Plans for the future are in progress and include a new animal room, and laboratories for pathology, glaucoma and cataract research.

The Future – As in any other human endeavor, there are some uncertainties in the future of the Infirmary and its medical staff. Medical costs are soaring and the public is, understandably, concerned. Because the total expenditure for health care presently involves about nine per cent of the gross national product in

this country, it is incumbent on all health care professionals to ensure that these resources are distributed in the most efficient and equitable way. Furthermore, we can expect critical decisions to be made on the national level which will almost certainly affect the delivery of health care everywhere in the country. At the Infirmary, however, we are well equipped to adjust to these pressures for a variety of reasons: our magnificent new hospital is flexible to change; our finances are in good shape; our affiliation with Harvard assures academic prestige; and most importantly, the sophistication and specialization of our medical staff has created a medical reputation that is one of the best in the country. With these facts in mind, we can look forward to a bright and secure future.

Claes H. Dohlman, M.D.

Vaes Johlman



An Infirmary ophthalmologist tests the "visually evoked responses" (VER's) of an eye patient to an alternating check pattern moving rapidly across the screen of a closed circuit t.v. The test is designed to measure the function of the optic nerve in transmitting light messages to the brain.

HEALTH Care today is a very complex human endeavor. There is a constantly proliferating array of devices, therapies and techniques which must be adopted and mastered if we are to keep abreast of the times. An institution such as the Infirmary, in which research and teaching play important complimentary roles to patient care, requires the cooperative effort of gifted teacher-investigators, talented physicians and dedicated trustees. In 1977, the Department of Otolaryngology made good progress on all these fronts.

Staff—Richard C. Webster, M.D., has joined the plastic surgery service. Other members of that service are Howard M. Ecker, M.D., John N. Vandemoer, M.D., William G. Lavelle, M.D., and Edward E. Jacobs, M.D. Richard L. Fabian, M.D., who is returning to private practice in Boston, will also serve on the plastic service.

Ben Z. Pilch, M.D., has joined Max L. Goodman, M.D., in Otolaryngologic Pathology to assist with the increasing demand for service in that section.

John E. McKeigue, M.D., has been appointed to the Senior Consulting staff, and Thomas R. Klein, M.D., replaces him as Surgeon in Otolaryngology and member of the Board of Surgeons.

Honors – During the past year, four former residents and staff members have been appointed as Chairmen of Otolaryngology: Richard R. Gacek, M.D., at the University of New York at Syracuse; Maxwell Abramson, M.D., at Columbia in New York City; Charles Cummings, M.D., at Washington University in Seattle; and Robert Sofferman, M.D., at the University of Vermont in Burlington.

Robert S. Kimura, M.D., Director of the Electronmicroscopy Research Laboratory at the Mass. Eye and Ear, received the Doctor of Medical Sciences degree from the Tokyo Medical and Dental School.

At their annual graduation dinner, the senior residents presented the first annual award for Excellence in Teaching to Robert E. Klotz, M.D.

William W. Montgomery, M.D., was elected President of the New England Otolaryngological Society. At the annual meeting of the American Academy of Ophthalmology and Otolaryngology in 1977, he presented an exhibit entitled, "Surgery of the Larynx, Trachea and Cervical Esophagus." The exhibit featured several plastic tube devices developed by him in collaboration with Mr. E. Benson Hood. These devices aid in the management of laryngeal and

tracheal disorders.

Daniel Miller, M.D., was elected to the Presidency of the American Triological Society, an organization of 449 active members, all of whom are otolaryngologists who have made contributions of clinical and/or scientific importance.

I served as President of the American Otological Society during the past year and presided at the annual meeing held at the Boston Sheraton Hotel in May. The active membership of this Society numbers 109 and is limited to those who have contributed clinical and/or scientific knowledge to otology.

Joseph B. Nadol, M.D., and Ernest A. Weymuller, M.D., were promoted to Assistant Professors on the faculty of Harvard Medical School.

Research – A very significant event this year was an award of \$250,00 by the Glen Meade Foundation to Dr. Montgomery for the construction of Research Laboratory in Rhinolaryngology. The Laboratory will be located on the fourth floor and will include facilities for histology, animal surgery, photography, anatomical dissection and engineering science.

Dr. Kimura is continuing his studies on the neuroanatomy of the inneear. He is also working on endolymphati







Report of the Chief of Otolaryngology

Harold F. Schuknecht, M.D.

Barely discernible in this surgeon's hand is the minute stapes bone which is essential to the transmission of sound from the middle ear to the inner ear nerves. The smallest bone in the body, the stapes when defective can be replaced by an artificial piston through an amazing surgical procedure called stapedectomy. Routinely performed at the Infirmary, this procedure can successfully restore hearing 90 per cent of the time.

With the help of a high-powered electron microscope, an Infirmary otolaryngologist can study the causes of "nerve deafness", a hearing disorder of the inner ear that affects thousands.

ydrops, a condition known to exist in Meniere's disease. The research objective to discover new surgical methods to revent the disease or relieve the sympoms. Working in this same laboratory, Dr. Nadol is studying the pathological hanges which occurred in the human ears of individuals who suffered from hearing the pathological objects and/or vertigo during their lifetime.

Nelson Y. S. Kiang, M.D., and his associates in the Eaton Peabody aboratory of Auditory Physiology continue their quest for elucidation of the physical, electrical and chemical events undamental to the hearing process. A arge consortium grant has been awarded by the National Institute of Health to the Massachusetts Eye and Ear Infirmary, Massachusetts Institute of Technology, Harvard Medical School and the Massachusetts General Hospital for basic and clinical studies of the auditory system. An important objective of this joint effort s to seek practical uses for new knowledge resulting from research.

Dr. Nadol, in collaboration with Dr. Kiang, is further developing and testing electrocochleography as a clinical tool or the evaluation of hearing loss. This levice records the electrical activity of he cochlea and auditory nerve in reponse to sound stimuli without requiring a voluntary response from the patient.

One of its important uses is the evaluation of hearing in infants and children, thus permitting the earliest possible initiation of educational and rehabilitative procedures.

William R. Wilson, M.D., is being supported by a grant from the Deafness Research Foundation to work on causes for sudden deafness.

Members of the Tumor Clinic, including Dr. Weymuller and Dr. Montgomery, have designed an elaborate protocol for surgery, radio-therapy and chemotherapy with the objective of evolving a more effective means of treatment.

Teaching – The clinical staff is responsible for the teaching of Otolaryngology to 140 Harvard Medical students, 18 residents and four post-residency fellows. Teams of part-time and full-time otolaryngologists perform this labor-oflove as an accepted duty associated with the privilege of staff membership. Our residency is a much sought-after program, which suggests to me that our training program is good, probably among the best. What more laudable objective could we have than to produce good physicians for the next generation?

Each year we give a postgraduate course sponsored by the Department of Continuing Education of Harvard Medical School. This year, Dr. Montgomery and a staff of local and national authorities gave a three-day course on laryngeal and tracheal disorders.

Horizons – Otolaryngologists are now performing procedures which, not long ago, were technically impossible. These include reconstructive surgery of the middle ear, larynx and trachea, functional surgery for cancer, and cosmetic surgery. All of these provide a better quality of life for many who in the recent past would have had no hope! The profoundly deaf may take encouragement in the possibility of an implanted device to replace the faulty inner ear, thanks to fundamental knowledge gained through research in such laboratories as the Eaton Peabody Laboratory of Auditory Research. The electron microscopic study of diseased human tissues holds great promise of new discoveries. These are the kinds of priorities we have fostered and will continue to pursue with the hope of ensuring better lives for those who follow us.

Harold F. Schuknecht, M.D.

Thankot Schuleneolit



The hospital's emergency staff treated more than 16,000 patients for acute ear, nose and throat problems out of a total 35,380 emergency patients seen during 1977.











Portrait of a Hospital -1977

WITH its new building a completed landmark on the Boston skyline, the Infirmary took steps early in the year to identify itself as a distinct specialty hospital. The first step was the construction of a bold, cube-shaped sign to aid pedestrians visiting the Infirmary (1). The next step was the planning for an identity more visible to the surrounding community. In the coming year, the Infirmary can look forward to the installation of a tasteful illuminated sign on the building itself.

In their first full year of operation

in comfortable new quarters on the first and second floors, the Eye and ENT Outpatient Departments kept pace with the rising demand for ambulatory care. Shown here is the spacious ENT reception area (2). The Pharmacy, in its first year as a completely new service, added greatly to the convenience of Infirmary patients, medical staff and employees. Here, Richard Giovanoni, Director of Pharmacy, assists a patient (3).

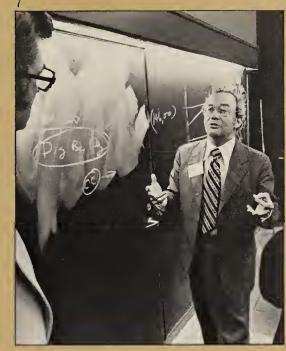
The opening of an internal medicine unit for increased consultation services added another dimension to the

personalized care of inpatients at the Infirmary. Shown here on one of his daily rounds is the Chief of the Medical Unit, Lloyd Axelrod, M.D. (4).

The Infirmary's ongoing commitment to quality in patient care was recognized when the hospital received it full two-year accreditation (5) from the Joint Commission on Accreditation of Hospitals. News of accreditation came after an intensive on-site inspection of the hospital and its medical and administrative procedures.

Joining businesses and health care











>

10

nstitutions throughout the country, the nfirmary began an ambitious program to ave energy and contain costs. Its energy onservation campaign was officially aunched late in the year with a tour of he hospital's mechanical plant and a veek of energy-minded activities.

Among the special tour guests was Trustee pearances on television and radio. Here William C. Mercer (6c), who spearheaded Richard A. Thoft, M.D., Surgeon in he Infirmary's drive to save energy.

Ophthalmology, is filmed by the Channel

In its third successful year, the nfirmary's unique split-cost-accounting ystem continued to draw the attention of health care professionals in the public

and private sector alike. Here, Infirmary Director Charles T. Wood discusses the system's merits with participants in an executive program at the Harvard School of Public Health (7).

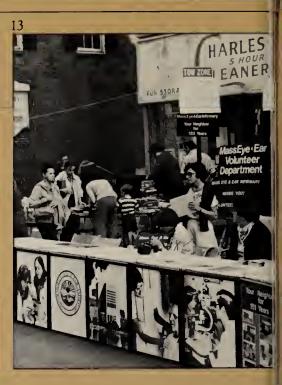
During the year, physicians on the Infirmary staff made numerous appearances on television and radio. Here Richard A. Thoft, M.D., Surgeon in Ophthalmology, is filmed by the Channel 4 news team performing a new surgical procedure he developed for the treatment of chemical burns to the eye (8). B. Thomas Hutchinson, M.D., Associate Surgeon in Ophthalmology, discusses glaucoma on the "Woman '77" show (9).

As part of its ongoing educational program for employees, trained hospital personnel offered demonstration workshops in basic and advanced life support techniques during two highly successful "CPR Weeks". During one CPR week, Kathryn McGoldrick, M.D., Assistant Anesthesiologist, demonstrates the life-saving technique to a group of employees (10).

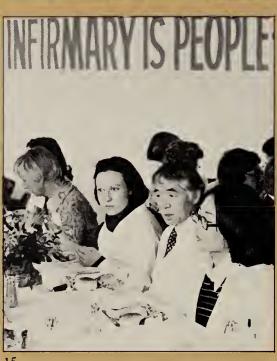












Portrait of a Hospital (continued)

For a hospital that began as a tiny walk-in clinic 154 years ago, 1977 was very much a year of renewing local ties and honoring past achievements. In mid-spring, the new Infirmary, along with Mass. General, hosted a health fair with free medical screening and entertainment for residents of nearby communities (11). Sponsored by the hospitals and the Beacon Hill Civic Association, Healthfest '77 drew more than 800 people

and won such a favorable response that a similar event is planned for this coming year. The generous support of the Infirmary's Ladies Visiting Committee and volunteers was a major factor in the day's success. Here (12), Mrs. John Lowell (r) and Winnifred Cunningham (1), both LVC members, offer coffee and doughnuts to visitors. In September, the Infirmary again joined the local community at the Charles Street Fair (13) and in

December, the hospital was the proud host of Beacon Hill's annual Winterfest auction and dinner. Here, television pe sonality Sharon King (14) auctions off a item at the December fundraising event catered by the Dietary Department in the Infirmary's eighth floor dining room.

Also held on the eighth floor, the Infirmary's Annual Service Awards luncheon (15), honored 147 employees and volunteers collectively for more than













,000 years of unstinting service.

In November, the Infirmary's ocial Service Department celebrated 70 ears of pioneering history with a widely ttended two-day symposium and birthlay dinner. During the symposium, Juest Speaker Susan Jay Spungin, from he American Foundation for the Blind, liscusses the educational needs of the andicapped (16). At the birthday dinter, Miss Deaf America Susan Davidoff,

a former MEEI patient (17), entertains guests with a graceful rendition of several songs in sign language.

After months of careful planning, the LVC's annual "Christmas in November" Bazaar was a highly successful event with most of the handmade items bought within the first few hours. Here, early morning shoppers admire the collection of donated foliage at the Bazaar (18). At year's end, Melville Chapin, Chair-

man of the Corporation (19), presided over the Annual Meeting of the Corporation. At the annual meeting of the professional staff, Homer Hagedorn, a consultant from Arthur D. Little (20), discusses the hospital's organizational structure while staff members listen attentively.

Comparative Statistics
Massachusetts Eye and Ear Infirmary

Fiscal 1976-77		1977	1976
Inpatient Hospital (174 Beds)	Admissions: Eye Patients ENT Patients	7,266 4,007	7,047 4,133
	Total Admissions	11,273	11,180
	Operations: By Eye House Staff By Eye Attending Staff	1,111 6,305	1,037 6,093
	Total Eye Operations By ENT House Staff By ENT Attending Staff	7,416 1,123 2,578	7,130 1,273 2,531
	Total ENT Operations Total Operations	3,701 11,117	3,804 10,934
	Discharges: Death Autopsies Patient Days Average Patient Census Average Length of Stay Bed Utilization	11,295 16 44% 55,606 152 4.92 88%	11,154 10 10% 55,288 151 4.96 87%
Outpatient Department	Eye Clinic ENT Clinic	57,655 20,455	61,766 21,078
	Total OPD Visits	78,110	82,844
Emergency Ward	Eye Cases ENT Cases	18,868 16,512	18,346 17,036
	Total	35,380	35,382
Ambulatory Surgery	Eye Cases ENT Cases	2,186 1,508	1,979 1,640
	Total	3,694	3,619
Special Services	Audiology Electroretinography (tests) Fluorescein (tests) Low Vision	9,430 900 2,331 151	9,354 834 2,271 139
	Neuro-ophthalmology Otoneurology (tests) Ultrasonography (tests) Visual Function Studies	952 466 265 -0-	958 388 212 440
	Radiology (exams)	30,588	27,103
	Laboratories: Eye Pathology (specimens) ENT Pathology (specimens) Clinical Laboratory (procedures)	2,184 11,355 93,082	1,430 8,168 83,104
	Bacteriology (cultures)	16,116	15,446

Financial Statement Massachusetts Eye and Ear Infirmary

Unrestricted Funds September 30, 1977

R	al	an	ce	SI	eet

Current Assets Cash		\$1,781,353	Current Liabilities Current installments of		
Accounts Receivable	\$4,682,521	, , ,	long-term debt		\$ 1,055,500
Less Allowance for	(24 (24	# 4 9 45 9 95	Accounts Payable		2,119,756
doubtful receivables	634,624	\$4,047,897	Accrued expenses		210,004
Investments, at cost (quoted			Due to other funds		454,431
market value \$857,209)		\$ 827,443	Total Current Liabilities		\$ 3,839,691
Inventories		156,718	Long-Term Debt, less current		
Prepaid expenses		110,114	installment		15,545,759
Due from Investment pools		188,734	Equity in Undistributed		,
Estimated Contract Adjustment		370,567	Security Pool		(64,225)
Total Current Assets		\$7,482,826	Fund Balances		
Other Assets			General operating fund	\$ 2,512,541	
Property, Plant and equipment	\$42,476,921		Depreciation Fund —	2 252 222	
Less Accumulated	AT 103 (15	#24.004.254	Unrestricted	2,250,322	A 22 455 055
depreciation	\$7,482,647	\$34,994,274	Plant Fund	\$18,393,012	\$23,155,875
Total Unrestricted Funds		\$42,477,100	Total Unrestricted Funds		\$42,477,100

September 30, 1977

Statement o	f Revenue an	d Expenses
-------------	--------------	------------

Patient Service Revenue	\$20,901,732
Adjustment to Patient Revenue for uncollectible accounts, free care and contractual allowances	1,582,873
Net Revenue Service to Patients	\$19,318,859
Other Operating Revenue (including \$4,586,730 from Research and other Specific Purpose Funds)	\$ 5,866,547
Total Operating Revenue	
Operating Expenses:	\$25,185,406
Patient Service (including depreciation) \$20,887,510	
Research and other Specific Purpose Direct Expense 4,586,730	\$25,474,240
Hospital Net Loss from Operations	\$ 288,834

The Data Processing Department is responsible for the processing and pre-sentation of all internal, financial and statistical data at the Infirmary.



Financial StatementMassachusetts Eye and Ear Infirmary

Income from Investments Gifts and Bequests Donated Income — Various Estates	\$ 827,578 1,521,690 738,851
	\$ 3,088,119

Restricted Funds September 30, 1977			
Balance Sheet			
Specific Purpose Funds Cash Investments at Cost (Quoted market value \$1,812,402) Due from other Funds Receivable from Grantor agencies	\$ 1,386,149 1,563,504 345,525 424,946 \$ 3,720,124	Equity in undistributed security pool gains Fund Balances Special Purpose Temporary Unexpended restricted income Due to other funds	\$ (32,755) 2,231,680 980,873 540,326 -0- \$ 3,720,124
Building Fund Cash Construction in Progress Due from other funds	\$ 5,522 2,470,733 108,906 \$ 2,585,191	Accounts payable Fund balance	\$ 60,281 2,524,910 \$ 2,585,191
Endowment Funds Cash Investments, at cost (quoted market value \$15,474,573)	\$ 63,079 14,453,341 \$14,516,420	Equity in undistributed security pool gains Fund balances Income restricted Income unrestricted	\$ 4,476,482 1,786,119 8,253,819 \$14,516,420

Board of Managers

Melville Chapin, Chairman Robert C. Jordan, President Ephron Catlin, Jr., Vice-President William H. Claflin, III, Treasurer Mrs. John Lowell, Secretary John O'Sullivan Francis* Avram J. Goldberg George M. Lovejoy, Jr. George A. McLaughlin, Sr. August R. Meyer Duncan Neuhauser, Ph.D.* William A. Parker Henry K. Porter

Executive Committee

James I. Summers

Robert C. Jordan, Chairman Charles T. Wood, Secretary Ephron Catlin, Jr. Melville Chapin William H. Claflin, III Claes H. Dohlman, M.D. Roy A. Johnson, M.D. (President, Medical Staff) George M. Lovejoy, Jr. Mrs. John Lowell George A. McLaughlin, Sr. Harold F. Schuknecht, M.D. Porter H. Smith, M.D.

Mrs. James I. Summers

Members of the Corporation

1925 Hon. Leverett Saltonstall – honorary

1934 Hon. Robert F. Bradford

1935 William A. Parker

1940 Mrs. Richard Cary Curtis

1940 Horace W. Frost honorary

1943 Frederic Winthrop, Sr. - honorary

1945 Mrs. Sullivan A. Sargent

1947 William H. Claflin, III

1948 August R. Meyer

1948 Miss Amelia Peabody - honorary

1951 Hon. Francis W. Hatch, Jr. 1971 Robert D. Williams

1951 Melville Chapin

1951 Henry K. Porter

1952 George A. McLaughlin, Sr.

1953 Mrs. Varaztad H. Kazanjian

1955 Richard P. Chapman

1955 William Ehrlich

1955 Weston Howland, Jr.

1957 Hon. William L. Saltonstall

1963 Thomas B. Frost

1963 John S. Howe

1963 Frederick H. Lovejoy honorary

1965 George M. Lovejoy, Jr.

1965 Mrs. John Lowell

1965 Frederick C. Rozelle, Jr.

1966 Francis S. Hill

1966 Robert Bacon

1966 James I. Summers

1966 Leo F. Daley, Sr.

1967 Paul A. Chandler, M.D. honorary

1967 Edwin B. Dunphy, M.D. honorary

1967 Mrs. Bartlett Harwood

1967 John M. Lord

1967 Leroy A. Schall, M.D.

1967 William F. Spang

1967 Monte J. Wallace

1968 Colin McA. Cunningham

1968 W. Clement Stone honorary

1969 Richard W. Young, Ph.D.

1970 Ephron Catlin, Jr.

1970 Mrs. Frederick S. Moseley, III

1970 Mrs. Frederick R.H. Witherby

1971 Avram J. Goldberg

1971 Robert C. Jordan

1971 Mrs. Robert C. Meisel

1972 Matthew J. Burns

1972 Leo H. Daley

1972 Mrs. William P. Ellison

1972 Richard Harte

1973 Dominic P. DiMaggio

1973 J. Frank Gerrity

1973 Robert T. P. Storer, Jr.

1973 Frederick G. P. Thorne

1974 Bruce A. Beal

1974 William C. Mercer

1975 Bernard R. Baldwin

1975 Edward Reynolds, Jr.

1975 William Salatich

1976 Walter A. Rosenblith,

Ing. Rad.

1976 Gustave M. Solomons

1976 Mrs. Sally Stone

1976 Frederick Winthrop, Jr.

1977 Mrs. Lillian Fishburne

1977 Herbert W. Grav

1977 Ms. Regina Herzlinger

1977 Stanley G. Russell, Jr.

1977 Sandra Carnegie Steele

1977 Mrs. Alice W. Yancey

Medical Staff Executive

Roy A. Johnson, M.D.,

Chairman

Melville Chapin

Claes H. Dohlman, M.D.

George E. Garcia, M.D.

B. Thomas Hutchinson, M.D.

Robert C. Jordan

Joseph C. Kim, M.D.

John M. Kurkjian, M.D.

Joseph A. Moretti, M.D.

Thomas J. Mulvaney, M.D. Harold F. Schuknecht, M.D.

Porter H. Smith, M.D.

Taylor R. Smith, M.D.

Charles T. Wood

Finance

William H. Claflin, III,

Chairman

Melville Chapin

Robert C. Jordan

Human Studies Subcommittee

Robert Williams, Chairman Julianne Buono, Secretary

Leo H. Daley

Max L. Goodman, M.D.

W. Morton Grant, M.D.

Robert S. Kimura, D.M.Sc.

Ronald W. Lamont-Havers, M.D. Harold F. Schuknecht, M.D.

Robert T. P. Storer

Richard A. Thoft, M.D.

Charles T. Wood

Library and Archives

William W. Montgomery, M.D.,

Chairman

Henry F. Allen, M.D.

Douglas Bryant

Richard L. Dallow, M.D.

Claes H. Dohlman, M.D.

Edwin B. Dunphy, M.D.

James R. Hamill

*Appointed by the Commonwealth Deceased ²Resigned, 1977

> Play is a pleasant diversion to young patients in the Infirmary's pediatric unit on the 11th floor.



Director

Library and Archives
B. Thomas Hutchinson, M.D.
John W. Irwin, M.D.
Robert S. Kimura, D.M.Sc.
C. Robin LeSueur
Moses H. Lurie, M.D.
Thomas J. Mulvaney, M.D.
Abraham Pollen, M.D.
Harold F. Schuknecht, M.D.
Porter H. Smith, M.D.
Charles Snyder, Secretary and Librarian
Richard A. Thoft, M.D.

Personnel and Pension
Henry K. Porter, Chairman
Melville Chapin
Thomas B. Frost
Robert C. Jordan
Jeffrey R. Kelly
George A. McLaughlin, Sr.
Ruth Ann Moriarty
Anthony P. Reis
Robert T. P. Storer, Jr.
Charles T. Wood

Policy Review Robert C. Jordan, Chairman Robert J. Brockhurst, M.D. Julianne Buono, Secretary Melville Chapin William H. Claflin, III Claes H. Dohlman, M.D. George E. Garcia, M.D. W. Morton Grant, M.D. B. Thomas Hutchinson, M.D. Roy A. Johnson, M.D. Robert E. Klotz, M.D. Robert H. Lofgren, M.D. William W. Montgomery, M.D. Charles D. J. Regan, M.D. Anthony P. Reis Harold F. Schuknecht, M.D. Porter H. Smith, M.D. Charles T. Wood

Salary Melville Chapin William H. Claflin, III Robert C. Jordan Charles T. Wood

Social Service Advisory Mrs. Robert C. Meisel, Chairman Frank G. Berson, M.D. Mrs. Malcolm B. Carsley Barbara E. Corey, R.N. Robert Danahy Barbara J. Dawson Ruth Farrisey, R.N. George E. Garcia, M.D. James R. Hamill
Jeffrey R. Kelly
Mrs. Edgar H. Kent
Moses H. Lurie, M.D.
Rhoda K. Morrison
Richard A. Thoft, M.D.
Alfred D. Weiss, M.D.
Michael Zoller, M.D.

Accreditation Jeffrey R. Kelly, Chairman Margarete L. Arndt Eleanor Bushman Barbara E. Corey, R.N. Claes H. Dohlman, M.D. Richard Giovanoni, R.Ph. Max L. Goodman, M.D. Judith M. Grant, Secretary James R. Hamill Francis S. Hill Barbara Houtman B. Thomas Hutchinson, M.D. Herbert I. Kirshnit August R. Meyer Harold F. Schuknecht, M.D. Madeline S. Shipsey Porter H. Smith, M.D. Taylor R. Smith, M.D. Charles Snyder Alfred L. Weber, M.D. Alfred D. Weiss, M.D. Charles T. Wood

Animal Farm
John W. Irwin, M.D.,
Chairman
Daniel M. Albert, M.D.
Julianne Buono, Secretary
Cecil K. Drinker, M.B.A.
Robert Griffith, D.V.M.
Porter H. Smith, M.D.
Susan Y. Schmidt, Ph.D.

Energy Conservation
Committee
William C. Mercer, Chairman
Alison B. Bass
Andrew B. Baker
Joseph Bellefontaine
James J. Cunniff
Arthur Doherty
Cecil K. Drinker, M.B.A.
James R. Hamill
Herbert I. Kirshnit
Robert Marshall
James G. McMahon
David S. Walton, M.D.

Nominating Committee Leo F. Daley, Sr., Chairman Richard Harte August R. Meyer Robert D. Williams **Development Committee** Melville Chapin, Chairman Julianne Buono, Secretary Richard P. Chapman William H. Claflin, III Dominic P. DiMaggio Richard Harte Francis S. Hill Herbert Howard Robert C. Jordan Henry A. Mosher, M.D. Joseph B. Nadol, M.D. Frederick C. Rozelle, Ir. Charles T. Wood Planning Committee George M. Lovejoy, Jr., Chairman Bruce A. Beal Julianne Buono, Secretary Claes H. Dohlman, M.D. Frank J. Gerrity James R. Hamill Robert C. Jordan John M. Lord Anthony P. Reis Harold F. Schuknecht, M.D. Porter H. Smith, M.D.

Charles T. Wood Budget Robert C. Jordan, Chairman Margarete Arndt Barbara E. Corey, R.N. Claes H. Dohlman, M.D. James R. Hamill Herbert Howard Jeffrey R. Kelly William W. Montgomery, M.D. Ruth Ann Moriarty Charles D. J. Regan, M.D. Anthony P. Reis Harold F. Schuknecht, M.D. Porter H. Smith, M.D. James I. Summers Alfred Weber, M.D. Charles T. Wood Alice W. Yancey

Charles T. Wood Associate Director and Administrator Jeffrey R. Kelly Associate Director for Fiscal **Affairs** Anthony P. Reis Director of Nursing Services Barbara E. Corey, R.N. Associate Director for Clinical Services James R. Hamill Associate Director for Hospital Services Raymond W. Lyons Assistant Director for Planning Julianne Buono Director of Development Herbert G. Howard Director of Patient Services Margarete L. Arndt Director of Personnel Ruth Ann Moriarty Acting Director of Public Affairs Alison B. Bass

Admitting

Ruth Dorfman, R.N., Manager

Building Services

John Douglas, Director

Communications and

Information Services Jean M. Wilson, Manager

Dietary Services

Herbert I. Kirshnit, Director

Maintenance Services

Robert Marshall, Director

Medical Records

Barbara Houtman, Director

Operating Rooms

Evelyn Brewster, R.N., Director

Outpatient Department

Francis X. McCrossan,

Administrator

Carol Stearns, Chief O.P.D.

Admitting Officer

Purchasing and Stores

Lehan Power, Director

Scheduling

Mary Louise Davis, Manager

Social Services

Madeline S. Shipsey, Director

Volunteer Services

Rosanne Ring, Director

Executive Committee 1977

Mrs. James I. Summers,

Chairman

Mrs. William W. Montgomery,

First Vice-Chairman

Mrs. Robert F. Kurtz, Second

Vice-Chairman

Mrs. Harold F. Schuknecht,

Treasurer

Mrs. I. D. Okamura,

Recording Secretary

Mrs. Calvin A. King,

Corresponding Secretary

Mrs. Henry F. Allen

Mrs. Howard M. Ecker Mrs. Edgar H. Kent

Mrs. Henry Lyman, Jr.

Mrs. Robert C. Meisel

Mrs. John Lowell, Immediate

Past Chairman

Members

Mrs. Henry F. Allen

Mrs. Manning Barry

Mrs. Barry Benjamin

Mrs. Maurice Berlin

Mrs. Yale J. Berry

Mrs. C. J. Boulris

Mrs. Richard Bowman

Mrs. Harry E. Braconier

Mrs. Edwin J. Carr

Mrs. John Carroll, III

Mrs. Malcolm B. Carsley

Mrs. Thomas Cavanaugh

Mrs. Richard B. Chapman

Mrs. Julian F. Chisholm

Mrs. Nathaniel D. Clapp

Mrs. John Clorite

Mrs. Thomas P. Cronin

Mrs. Colin McA. Cunningham

Miss Winifred A. Cunningham

Mrs. Richard Cary Curtis*

Mrs. Leo F. Daley

Mrs. Benjamin C. Davis

Mrs. Daniel F. DiPalma

Mrs. Claes H. Dohlman

Mrs. David D. Donaldson

Mrs. Weld Douglass

Mrs. Edgar Driscoll, Ir.

Mrs. Edwin B. Dunphy

Mrs. Howard M. Ecker

Mrs. John B. Eliot

Mrs. William Ellison

Mrs. F. Murray Forbes

Mrs. Albert R. Frederick, Jr.

Mrs. Richard R. Gacek

Mrs. Harold S. Geneen Mrs. Kweku N. Ghartey

Mrs. Avram J. Goldberg

Mrs. Robert L. Goodale

Mrs. Max L. Goodman

Mrs. W. Morton Grant

Mrs. Trygve Gundersen

Mrs. Thomas L. Higgins

Mrs. Valentine Hollingsworth

Mrs. Edgar M. Holmes

Mrs. Rose F. Hurley Mrs. Alfred L. Hurst

Mrs. Carl C. Johnson

Mrs. Roy A. Johnson

Mrs. Robert C. Jordan Mrs. Varaztad H. Kazanjian*

Mrs. Edgar H. Kent

Mrs. Calvin A. King

Mrs. Herbert I. Kirshnit

Mrs. Thomas R. Klein

Mrs. Robert E. Klotz

Mrs. Milton D. Knight

Mrs. Clarence E. Knapp

Mrs. Robert F. Kurtz

Mrs. Clarence E. Kylander

Mrs. Bertram H. Loewenberg

Mrs. Robert H. Lofgren

Mrs. John Lowell* Mrs. Henry Lyman, Jr.

Mrs. Alexander S. Macmillan

Mrs. Alexander S. Macmillan, Jr.

Miss Anita Mangiaracine

Mrs. Arthur E. Margulies

Mrs. David B. McClosky

Miss Maryellen McEvoy

Mrs. J. Wallace McMeel

Mrs. Robert C. Meisel*

Mrs. Daniel Miller

Mrs. G. Gardner Monks

Mrs. William W. Montgomery

Mrs. Frederick S. Moseley, III

Mrs. Stephen P. Mugar

Mrs. Joseph B. Nadol

Mrs. I. D. Okamura Mrs. George M. Olive, Jr.

Mrs. Irving Pavlo

Mrs. Grafton Perkins

Mrs. Enid Phillips

Mrs. Henri Prunaret

Mrs. Franklin Reece

Miss Florence Reid Mrs. John B. Richardson*

Mrs. Karl Riemer

Mrs. Phillips H. Roland, II

Mrs. Aram Roopenian

Mrs. Milton Rosenthal

Mrs. Baruch J. Sachs Mrs. William L. Saltonstall

Mrs. Ernest J. Sargeant

Mrs. Charles L. Schepens Mrs. Harold F. Schuknecht Mrs. John G. Sebestyen

Mrs. Alfred W. Scott

Mrs. Henry R. Scott

Mrs. Earle S. Seale Mrs. Samuel Simons

Mrs. William A. Slade, Jr.*

Mrs. Albert E. Sloane

Mrs. Taylor R. Smith

Mrs. George E. Stephenson

Mrs. Mildred Sullivan

Mrs. James I. Summers

Mrs. Thomas C. Thacher

Mrs. John C. Thayer

Mrs. Robert Truesdale Mrs. Silvio R. von Pirquet

Mrs. Donald R. Weis

Mrs. Lyon Weyburn

Mrs. Roy R. Wheeler Mrs. Henry E. Wile

Mrs. William R. Wilson

Mrs. Andrew N. Winslow, Jr. Mrs. Victor A. Wolff

Honorary Members Mrs. Loretta McLaughlin

Mrs. John J. Ring

Associate Members

Mrs. Richard P. Breed, Jr. Mr. and Mrs. Elliot W. Brown

Mrs. Mortimer L. Cashman

Mrs. William Endicott, II

Mrs. James P. Fenn

Mrs. Warren D. Haley Mrs. John Hand

Mrs. John R. Haug

Mrs. J. J. Hindon Hyde

Mrs. Leonard B. Kilgore

Mrs. Thomas H. Lanman

Mrs. John C. G. Loring Mrs. Joseph T. McGrath

Mrs. George R. Minot

Mrs. Charles F. Nayor

Mrs. Richard C. Norton Mrs. Joseph F. O'Connell

Mrs. Emerson T. Oliver

Mrs. Winthrop E. Sears Mr. and Mrs. Andre R. Sigourney

Mrs. C. Fred Smith, Jr.

Mrs. Lewis L. Wadsworth

Mrs. Gerard B. Townsend

Mr. and Mrs. Thomas J. Walsh Miss Agnes Wheeler

Mrs. Evelyn G. Whiton Mrs. Royal C. Wilson

*Past Chairman

Ophthalmology

ACTIVE STAFF

Chief of Ophthalmology Claes H. Dohlman, M.D. Associate Chief of

Ophthalmology
Charles D. J. Regan, M.D.

Assistant Chief of Ophthalmology Richard A. Thoft, M.D.

Surgeons in Ophthalmology
S. Arthur Boruchoff, M.D.
Robert J. Brockhurst, M.D.
Thomas P. Cronin, M.D.
Claes H. Dohlman, M.D.
W. Morton Grant, M.D.
Charles D. J. Regan, M.D.
Alfred W. Scott, M.D.
David H. Scott, M.D.
Richard J. Simmons, M.D.
Taylor R. Smith, M.D.
Richard A. Thoft, M.D.

Associate Surgeons in Ophthalmology Daniel M. Albert, M.D. Lloyd M. Aiello, M.D. Richard B. Chapman, M.D. David D. Donaldson, M.D. H. MacKenzie Freeman, M.D. Carl G. Freese, M.D. Stephen J. Fricker, M.D. George E. Garcia, M.D. John R. Gehring, M.D. Warren D. Haley, M.D. Ralph H. Hinckley, M.D. Roland E. Houle, M.D. B. Thomas Hutchinson, M.D. Robert C. Lawlor, M.D. Byron S. Lingeman, M.D.

Assistant Surgeons in Ophthalmology Eliot L. Berson, M.D.

J. Wallace McMeel, M.D.

George M. Olive, M.D.

Michael Wiedman, M.D.

Baruch J. Sachs, M.D.

Charles K. Beyer, M.D.
John M. Carroll, M.D.
Leo T. Chylack, M.D.
Eugene C. Ciccarelli, M.D.
Albert R. Frederick, Jr., M.D.
Alexander R. Gaudio, M.D.
Robert A. Gorn, M.D.
Joseph C. Kim, M.D.
Mohandas M. Kini, M.D.
Arnold J. Kroll, M.D.

Joel Arthur Kraut, M.D. Brent W. Lambert, M.D. Deborah P. Langston, M.D.

Eeva-Liisa Martola, M.D. Joseph Michon, M.D. David Miller, M.D.

Robert A. Petersen, M.D. Silvio R. von Pirquet, M.D.

Roland C. Pruett, M.D. Richard M. Robb, M.D. Perry Rosenthal, M.D. John G. Sebestyen, M.D. Harvey H. Slansky, M.D. David S. Walton, M.D. Donald R. Weis, M.D.

Assistant Physician in Ophthalmology Shirley H. Wray, M.D.

Assistants in Ophthalmology Mark B. Abelson, M.D. Ann Marie Bajart, M.D. A. Robert Bellows, M.D. Don C. Bienfang, M.D. Chester J. Boulris, M.D. Jack F. Bowers, M.D. John B. Constantine, M.D. Robert B. Cook, M.D. Richard L. Dallow, M.D. David K. Dueker, M.D. David L. Epstein, M.D. Gault M. Farrell, M.D. Elliot M. Finkelstein, M.D. Richard P. Floyd, M.D. C. Stephen Foster, M.D. Kweku N. Ghartey, M.D. Evangelos Gragoudas, M.D. David S. Greenseid, M.D. Arthur S. Grove, M.D. David A. Hill, M.D. Tatsuo Hirose, M.D. David S. Hutchison, M.D. Barry Jacobs, M.D. Eric H. Johnson, M.D. Jay H. Kaufman, M.D. Robert T. Lacy, M.D. James R. Lee, M.D. Raymond Liggio, M.D. Ernst J. Meyer, M.D. Peter B. Mooney, M.D. Edward Murphy, Jr., M.D. Paul E. Pataky, M.D. James T. Patten, M.D. David G. Perkins, M.D. Charles T. Post, M.D. Donald W. Putnoi, M.D. Edward A. Ryan, M.D. Kenneth A. Stampfer, M.D. Felipe I. Tolentino, M.D. Daniel W. Tolpin, M.D. Clement Trempe, M.D. Paul F. Vinger, M.D. George A. Violin, M.D. Mohammed Z. Wafai, M.D.

ASSOCIATE STAFF

Assistants in Ophthalmology Stephen R. Depperman, M.D. Thomas Richardson, M.D. James Rosenberg, M.D. Harold A. Woodcome, M.D. Consulting Chiefs of Ophthalmology Henry F. Allen, M.D. Paul A. Chandler, M.D. David G. Cogan, M.D. Edwin B. Dunphy, M.D.

Senior Consulting Surgeons in Ophthalmology

D. Robert Alpert, M.D. William P. Beetham, M.D. Harry E. Braconier, M.D. Virgil G. Casten, M.D. Joseph M. Clough, M.D. Mahlon T. Easton, M.D. Trygve Gundersen, M.D. Carl C. Johnson, M.D. Brendan D. Leahey, M.D. Sumner D. Liebman, M.D. Henry A. Mosher, M.D. Ichiro D. Okamura, M.D. Irving L. Pavlo, M.D. Abraham Pollen, M.D. Karl Riemer, M.D. Charles L. Schepens, M.D. Earl S. Seale, M.D. Albert E. Sloane, M.D. Garrett L. Sullivan, M.D. Francis J. West, M.D.

HONORARY STAFF

Associate Surgeons in Ophthalmology Frederic B. Breed, M.D. John M. Hill, M.D. Charles H. MacLaughlin, M.D.

Assistant Surgeons in Ophthalmology Julian F. Chisholm, M.D. Robert Kinder, M.D. Arthur M. Morrissey, M.D. Bertha Offenbach, M.D.

SERVICES

General Eye Service Charles D. J. Regan, M.D., Director

Ophthalmic Pathology
Taylor R. Smith, M.D.,
Director

Glaucoma Consultation Service W. Morton Grant, M.D., Director

Cornea Service
Deborah P. Langston, M.D.,
Acting Director
Ocular Motility Service
Stephen S. Fricker, M.D.,

Director
Neuro-Ophthalmology
Shirley H. Wray, M.D.,

Director

Retina Service

Charles D. J. Regan, M.D.,

Emergency Room
Arthur S. Grove, M.D.,
Director

Acting Director

Pediatric Ophthalmology David S. Walton, M.D., Director

Resident Training
C. Stephen Foster, M.D.,
Director

Clinical Fellows in **Ophthalmology** Retina Service Norman P. Blair, M.D. J. Terence Daly, M.D. Michael William Gaynon, M.D. Philip J. Harris, M.D. Po Swee Lim, M.D. Peter Louis Lou, M.D. Patrick Murphy, M.D. Perumalsamy Namperumalsamy, M.D. Caldwell Smith, M.D. William P. Spencer, M.D. To Bernice Rosen, M.D. Wu-fu Tsai, M.D. Marc O. Yoshizumi, M.D. Cornea Service Robert C. Campbell, M.D. Chin Wing Chu, M.D.

Gary Neal Foulkes, M.D.
David W. Lamberts, M.D.
Jonathan H. Lass, M.D.
Gilbert K. Yamamoto, M.D.
Glaucoma Service
Maida P. Antigua, M.D.
Frank G. Berson, M.D.

William P. Boger, M.D., (part-time) Michael Roth, M.D. Safa Wagdi, M.D.

Neuro-Ophthalmology Garron L. Klepach, M.D. David McAuley, M.D.

Eye Pathology Michael Bradbury, M.D. Jorn-Hon Liu, M.D. John C. Madigan, M.D.

Plastic and Reconstructive Surgery Harry Kolodner, M.D.

General Service Kenneth Haik, M.D., (part-time) Residents

C. Davis Belcher, III, M.D. Sheldon M. Buzney, M.D. Robert A. Caine, M.D. Stanley Chang, M.D. Stephen E. Feldon, M.D. Anthony Fraioli, M.D. Robert Friedlaender, M.D. Harold Granek, M.D. Thomas Hedges, M.D. Dorothy Horns, M.D. Samuel Jacobson, M.D. Sulayman Jallow, M.D. Edward Kim, M.D. Richard M. Low, M.D. Elbert Magoon, M.D. George A. Moo-Young, M.D. Andrew Packer, M.D. Peter R. Pavan, M.D. Theodore Renna, M.D. Susan Ryu, M.D. Delia Sang, M.D. Neil N. Silbermann, M.D. Stephen H. Sinclair, M.D. Iames A. Valone, M.D. Jane Wang, M.D. Dean J. Yimoyines, M.D.

New England Eye Bank Maryellen McEvoy, **Executive Director** S. Arthur Boruchoff, M.D. Richard A. Thoft, M.D. Medical Co-Directors **Executive Committee** of New England Eye Bank S. Arthur Boruchoff, M.D. Mrs. Malcolm B. Carsley Mrs. Richard Cary Curtis – honorary Haynes H. Fellows, Jr. H. Irving Grousbeck Erick Kauders honorary Mrs. William A. Slade, Jr. **Endicott Smith** Richard A. Thoft, M.D.

ACTIVE STAFF

Chief of Otolaryngology
Harold F. Schuknecht, M.D.
Surgeons in Otolaryngology
William L. Hayden, M.D.
Alfred L. Hurst, M.D.
Thomas R. Klein, M.D.
Robert E. Klotz, M.D.
Robert H. Lofgren, M.D.
William W. Montgomery, M.D.
Harold F. Schuknecht, M.D.

Associate Surgeons in Otolaryngology Yale J. Berry, M.D. Allan G. Edwards, M.D. Richard L. Fabian, M.D. Richard L. Gacek, M.D. C. Edward Jackson, M.D. Roy A. Johnson, M.D. Donald G. Keamy, M.D. John M. Kurkjian, M.D. Clarence Kylander, M.D. Joseph A. Moretti, M.D. Rufus C. Partlow, M.D. David L. Pierce, M.D. Marshall S. Strome, M.D. John C. Trakas, M.D. Richard C. Webster, M.D. Ernest Weymuller, M.D. William R. Wilson, M.D.

Assistant Surgeons in Otolaryngology
Robert P. Cipro, M.D.
William H. Friedman, M.D.
Edward G. Glinski, M.D.
Edward E. Jacobs, M.D.
William G. Lavelle, M.D.
Carl M. Lieberman, M.D.
Jon B. Liland, M.D.
Thomas J. Mulvaney, M.D.
Joseph B. Nadol, M.D.
Angelo Pappanikou, M.D.
Stephen A. Smith, M.D.

Assistants in Otolaryngology Barry J. Benjamin, M.D. Howard M. Ecker, M.D. Paul E. Hammerschlag, M.D. James P. Hughes, M.D. James H. Kelly, M.D. Ely A. Kirschner, M.D. Trevor J. I. McGill, M.D. Stephen A. Parker, M.D. Alfred D. Weiss, M.D.

Consulting Chief of Otolaryngology LeRoy A. Schall, M.D. Senior Consulting Surgeons in Otolaryngology Walter J. E. Carroll, M.D. Charles J. Drooker, M.D. Maurice G. Evans, M.D.¹ John R. Frazee, M.D. Robert L. Goodale, M.D. Edgar M. Holmes, M.D. Moses H. Lurie, M.D. John E. McKeigue, M.D. Daniel Miller, M.D. John R. Richardson, M.D. Sidney R. Wilker, M.D. Bernard Zonderman, M.D. Senior Consulting Associate Surgeon in Otolaryngology Aram Roopenian, M.D.

¹Deceased



The Infirmary's operating rooms are among the most highly utilized in the country. Efficient use of these OR facilities is possible because of an effective prescheduling system.

Medical Staff

(All listings are as of December 31, 1977)

Medical Staff

Common to Both Services

Department of Anesthesiology

Department of Radiology

HONORARY STAFF

Associate Surgeons in Otolaryngology Charles Kent, M.D. Herman J. Sternstein, M.D. Assistant Surgeon in

Otolaryngology
Elizabeth DeBlois, M.D.

Assistant in Otolaryngology Frank W. Brady, M.D.

ASSOCIATE STAFF

Associate Surgeon in Otolaryngology
Werner D. Chasin, M.D.

Assistants in Otolaryngology Robert Wayne Clubb, M.D. Victor M.Gotay-Rodriguez, M.D. John Nicholas Vandemoer, M.D.

Consultant in Medical Oncology Susan Pitman, M.D.

Consultant in Prosthodontia Peter E. Goldberg, D.D.S.

SERVICES

Subdivision of Plastic and Reconstructive Surgery Aram Roopenian, M.D. Senior Consulting Associate Surgeon in Plastic and Reconstructive Surgery Richard C. Webster, M.D. Associate Surgeon in Plastic and Reconstructive Surgery Richard L. Fabian, M.D. Associate Surgeon in Plastic and Reconstructive Surgery Howard M. Ecker, M.D. Assistant in Plastic and Reconstructive Surgery Edward E. Jacobs, M.D. Assistant in Plastic and Reconstructive Surgery William G. Lavelle, M.D. Assistant in Plastic and Reconstructive Surgery John Nicholas Vandemoer, M.D. Assistant in Plastic and Reconstructive Surgery

Subdivision of Otolaryngologic Pathology Max L. Goodman, M.D., Director Ben Z. Pilch, M.D., Assistant in Pathology

Head and Neck Tumor Clinic William W. Montgomery, M.D., Director Ernest Weymuller, M.D., Associate Director

Endoscopy Service
William W. Montgomery, M.D.,
Director
Thomas J. Mulvaney, M.D.,
Associate Director

Esophageal Voice Classes Ann Volk, Director

Audiology Rhoda K. Morrison, Director Stuart H. Bentkover, M.D. Carl A. Brown, M.D. Elaine D. Carrol, M.D. Louise 1. DiGregorio, M.D. William S. Fisher, III, M.D. Bradley Hall, M.D. Jeffrey P. Harris, M.D. Steven B. Hopping, M.D. Cameron J. Kirchner, M.D. Richard M. Levinson, M.D. David E. Nash, M.D. Joseph H. Oyer, M.D. Hubert C. Patterson, M.D. Edward J. Reardon, M.D. Martin A. Shuger, M.D. Howard G. Smith, M.D.

Chief of Anesthesiology Porter H. Smith, M.D. Anesthesiologist John V. Donlon, M.D. Jin Woo Kim, M.D. Assistant Anesthesiolog

Assistant Anesthesiologists Malcolm J. Heslop, M.D. Daniel W. Lang, M.D. Kathryn E. McGoldrick, M.D. Lily G. Tabbal, M.D.

Assistants in Anesthesiology Vitali H. DeGuzman, M.D. Harry R. Frohberg, M.D. Ismail Seda Sensel, M.D. David Ik Sonn, M.D.

Assistants in Anesthesiology (part-time) James M. Gayes, M.D. Nishan G. Goudsouzian, M.D. I. A. Jeevendra Martyn, M.D. Chief of Radiology Alfred L. Weber, M.D.

Radiologist
Alexander S. Macmillan, Jr., M.D.

Associate Radiologist Kiyokazu J. Momose, M.D.

Assistant Radiologist Jeanne Keller, M.D.

Consultants in Radio Therapy Milford D. Schulz, M.D. Herman D. Suit, M.D. Chiu-Chen Wang, M.D.

Medical Unit

ACTIVE STAFF

Chief of Medical Unit Lloyd Axelrod, M.D. Consultants in Internal Medicine Gerald J. Doyle, M.D. Richard A. Field, M.D.

ASSOCIATE STAFF

Consultants in Internal Medicine Thomas Richard Allyn, M.D.
Andrew Gabriel Bodnar, M.D.
Franklin Bringhurst, M.D.
David S. Clemmons, M.D.
Leslie Shu-Tung Fang, M.D.
Clinical Fellow in Internal
Medicine
Nelson Mark Braslow, M.D.

Microbiology Joan Haaf, Bacteriologist

Clinical Laboratory
Eleanor Bushman,
Chief Medical Technologist
Pharmacy
Richard Giovanoni, Director

¹Deceased

Department of Ophthalmology

Department of Otolaryngology

Howe Laboratory of **Ophthalmology** Claes H. Dohlman, M.D., Director Daniel M. Albert, M.D. Don C. Bienfang, M.D. Leo T. Chylack, Jr., M.D. David D. Donaldson, M.D. Cecil K. Drinker, M.B.A. David K. Dueker, M.D. David L. Epstein, M.D. Stephen J. Fricker, M.D. W. Morton Grant, M.D. Donovan J. Pihlaja, Ph. D. Charles Snyder, Librarian Shirley H. Wray, M.D.

Berman Gund Laboratory for the Study of Retinal Degenerations

Eliot L. Berson, M.D., Director Ross B. Edwards, Ph.D. Jo Bernice Rosen, M.D. Michael A. Sandberg, Ph.D. Susan Y. Schmidt, Ph.D. R. Bruce Szamier, Ph.D.

Research Associates in Ophthalmology
Peter John Anderson, Ph. D. Hong-Ming Cheng, Ph. D. udith Jedziniak, Ph. D. Charles E. Riva, D.M.Sc. Ernst G. Wolf, Ph. D.

Research Fellows
Jsha P. Andley, Ph.D.
Hashmut Chaudhry, M.D.
Thaddeus P. Dryja, M.D.
Gugene W. Fleming, M.D.
Kathryn Gillis, Ph.D.
Nikolov Z. Zakov, M.D.

Eaton Peabody Laboratory Nelson Y. S. Kiang, Ph.D., Director David W. Altman, S.B. Keld Baden-Kristensen, S.M. Terrance R. Bourk, Ph.D. Nell W. B. Cant, Ph.D. Alan H. Crist, S.B. Bertrand Delgutte, S.M. William A. Frezza, S.B. John J. Guinan, Jr., Ph.D. Thomas Holton, S.M. Eileen C. Kane, Ph.D. Robert A. Levine, M.D. M. Charles Liberman, Ph.D. Thomas J. Lynch, III, S.M. Michael J. Mulroy, Ph.D. Joseph B. Nadol, M.D. William T. Peake, D.M.Sc. David A. Steffens, S.B. Binseng Wang, S.M. Thomas F. Weiss, Ph.D.

Electron Microscopy Laboratory Robert S. Kimura, D.M.Sc.

Histopathology Harold F. Schuknecht, M.D. William W. Montgomery, M.D.

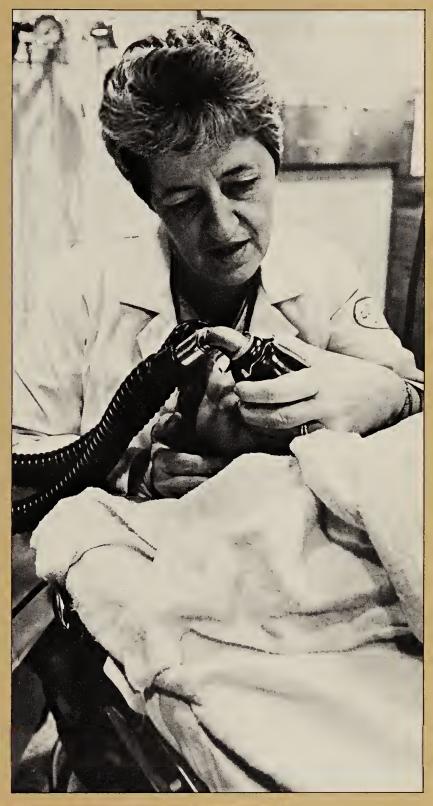
Microcirculatory Laboratory John W. Irwin, M.D., Director

Research Fellows in Otolaryngology Lucia Maria Cabezudo, M.D. Kevin P. Gibbin, M.D. Rudolph J. Hausler, M.D. Alastair M. Pettigrew, M.D.

Research and Clinical Fellow Syed S. Rizvi, M.D.

This young patient is gently anesthesized for minor ear surgery. He is one of the 7,000 Infirmary patients whose surgical needs are met annually on an outpatient basis

During its first year of operation (1976-77), the Infirmary Pharmacy processed close to 42,000 prescriptions and prepared thousands of sterile syringes and other specialized items for use by the medical staff.





Department of Ophthalmology

Professors of Ophthalmology Claes H. Dohlman, Chairman Daniel M. Albert, M.D. W. Morton Grant, M.D.

Clinical Professor of Ophthalmology Henry F. Allen, M.D.

Associate Professors of Opthalmology Mathea R. Allansmith, M.D. Eliot L. Berson, M.D. David D. Donaldson, M.D. Stephen J. Fricker, M.D. David Miller, M.D. Charles D. J. Regan, M.D. Liane Reif-Lehrer, Ph.D. Shirley H. Wray, M.D.

Associate Clinical Professors of Ophthalmology S. Arthur Boruchoff, M.D. Robert J. Brockhurst, M.D. Carl C. Johnson, M.D. Charles L. Schepens, M.D.

Taylor R. Smith, M.D.

Assistant Professors of Ophthalmology Lloyd M. Aiello, M.D. Michael Berman, Ph.D. Don C. Bienfang, M.D. Leo T. Chylack, Jr., M.D. Peter Davison, Ph.D. Arthur S. Grove, M.D. Frank Holly, Ph.D. Judith Jedziniak, Ph.D. Noritsugu Mukai, M.D. Arthur Neufeld, M.D. Robert A. Peterson, M.D. Charles E. Riva, D.M.Sc. Richard M. Robb, M.D. Susan Y. Schmidt, Ph.D. R. Bruce Szamier, Ph.D. Richard A. Thoft, M.D. David S. Walton, M.D.

Assistant Clinical Professors of Ophthalmology
Charles K. Beyer, M.D.
Hal M. Freeman, M.D.
B. Thomas Hutchinson, M.D.
Sumner D. Liebman, M.D.
J. Wallace McMeel, M.D.
Abraham Pollen, M.D.
Alfred W. Scott, M.D.
Richard J. Simmons, M.D.
Felipe I. Tolentino, M.D.

Lecturers on Ophthalmology Giuseppina d'Elia Raviola, Ph.D. David Maurice, Ph.D. Principal Associate in Ophthalmology Miguel Refojo, D.M.Sc.

Associates in Ophthalmology Bireswar Chakrabarti, Ph.D. Charles Cintron, Ph.D. Francois Charles Delori, Ph.D. Cecil K. Drinker, M.B.A.

Instructors in Ophthalmology Alice Joan Adler, Ph.D. Alan Adolph, Ph.D. Peter John Anderson, Ph.D. William P. Boger, M.D. Hong-Ming Cheng, Ph.D. Marshall Doane, Ph.D. David K. Dueker, M.D. Ross Edwards, Ph.D. David L. Epstein, M.D. Gilbert Feke, Ph.D. C. Stephen Foster, M.D. Evangelos Gragoudas, M.D. Erwin Hultsch, Ph.D. Bernard J. Jacobson, Ph.D. Benigno D. Peczon, Ph.D. Richard L. Pharo, D.M.Sc. Donovan J. Pihlaja, Ph.D. Michael A. Sandberg, M.D. Jerry Silver, M.D. D. Max Snodderly, Jr., M.D.

Clinical Instructors in Ophthalmology A. Robert Bellows, M.D. John M. Carroll, M.D. Richard B. Chapman, M.D. Richard L. Dallow, M.D. Elliot M. Finkelstein, M.D. Albert R. Frederick, M.D. Carl G. Freese, M.D. George E. Garcia, M.D. John Gehring, M.D. Ralph H. Hinckley, M.D. Tatsuo Hirose, M.D. Roland E. Houle, M.D. Joseph C. Kim, M.D. Mohandas M. Kini, M.D. Joel Arthur Kraut, M.D. Robert C. Lawlor, M.D. Byron S. Lingeman, M.D. Irving L. Pavlo, M.D. Roland C. Pruett, M.D. Perry Rosenthal, M.D. Baruch J. Sachs, M.D. John G. Sebestyen, M.D. Harvey H. Slansky, M.D. Donald R. Weis, M.D. Michael Wiedman, M.D.

Clinical Assistants in **Ophthalmology** Mark B. Abelson, M.D. Ann Marie Bajart, M.D. Chester J. Boulris, M.S. Jack F. Bowers, M.D. Eugene C. Ciccarelli, M.D. John B. Constantine, M.D. Howard L. Feldman, M.D. Richard P. Floyd, M.D. Alexander R. Gaudio, M.D. Kweku N. Ghartey, M.D. David S. Greenseid, M.D. Peter P. Gudas, M.D. David S. Hutchison, M.D. Eric H. Johnson, M.D. Jay H. Kaufman, M.D. Robert T. Lacy, M.D. Brent W. Lambert, M.D. James R. Lee, M.D. Ernst J. Meyer, M.D. Joseph Michon, M.D. Edward Murphy, Jr., M.D. Thomas Richardson, M.D. Edward A. Ryan, M.D. Daniel W. Tolpin, M.D. Paul F. Vinger, M.D.

Clinical Fellows in Ophthalmology C. Davis Belcher, III, M.D. Sheldon M. Buzney, M.D. Robert A. Caine, M.D. Robert C. Campbell, M.D. Stanley Chang, M.D. Chin Wing Chu, M.D. Anthony Fraioli, M.D. Steven E. Feldon, M.D. Gary N. Foulkes, M.D. Robert P. Friedlaender, M.D. Harold Granek, M.D. Philip Harris, M.D. Thomas Hedges, M.D. Dorothy Horns, M.D. Samuel Jacobson, M.D. Sulayman Jallow, M.D. Edward Kim, M.D. Jonathan H. Lass, M.D. David W. Lamberts, M.D. Richard M. Low, M.D. Elbert Magoon, M.D. George A. Moo-Young, M.D. Andrew Packer, M.D. Peter R. Pavan, M.D. Theodore Renna, M.D. Jo Bernice Rosen, M.D. Susan Ryu, M.D. Delia Sang, M.D. Neil N. Silbermann, M.D. Stephen H. Sinclair, M.D. James A. Valone, M.D. Jane Wang, M.D. Gilbert Yamamoto, M.D. Dean J. Yimoyines, M.D.

Research Fellows in Ophthalmology
Usha P. Andley, Ph.D.
Thaddeus P. Dryja, M.D.
Eugene W. Fleming, Ph.D.
Jack Greiner, Ph.D.
Garron L. Klepach, M.D.
David McAuley, M.D.
Nikolov Z. Zakov, M.D.
Henry Willard Williams
Professors of Ophthalmology
Emeritus
David G. Cogan, M.D.

Edwin B. Dunphy, M.D.

Associate Clinical Professor of Ophthalmology, Retired
Paul A. Chandler, M.D.

Assistant Clinical Professors of Ophthalmology, Retired William P. Beetham, M.D. Trygve Gundersen, M.D. Albert E. Sloane, M.D.

Department of Otolaryngology

Walter Augustus LeCompte Professor of Otology Professor of Laryngology Harold F. Schuknecht, M.D. Professor of Otolaryngology William W. Montgomery, M.D. Associate Professor of Pathology Max L. Goodman, M.D. Associate Professor of Otolaryngology Daniel Miller, M.D. Assistant Professors of Otolaryngology Joseph B. Nadol, M.D. Trevor J. I. McGill, M.D. William R. Wilson, M.D. Assistant Clinical Professors of Otolaryngology Burton F. Jaffe, M.D. Robert H. Lofgren, M.D. Marshall S. Strome, M.D. Ernest Weymuller, M.D. Clinical Instructors in Otolaryngology Douglas W. Bell, M.D. Barry J. Benjamin, M.D. Yale J. Berry, M.D. Allen G. Edwards, M.D. Richard L. Fabian, M.D. Edward I. Glinski, M.D. Paul E. Hammerschlag, M.D. William L. Hayden, M.D. Alfred L. Hurst, M.D. Edward E. Jacobs, M.D. Roy A. Johnson, M.D. James H. Kelly, M.D. Ely A. Kirschner, M.D. Thomas R. Klein, M.D. Robert E. Klotz, M.D. William G. Lavelle, M.D.

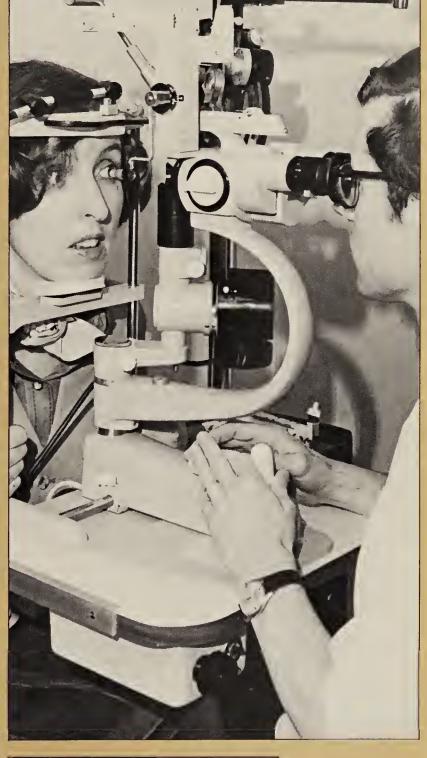
Carl M. Lieberman, M.D. Joseph A. Moretti, M.D. Thomas J. Mulvaney, M.D. Angelo Pappanikou, M.D. Rufus C. Partlow, M.D.

Stephen A. Smith, M.D.

John C. Trakas, M.D.

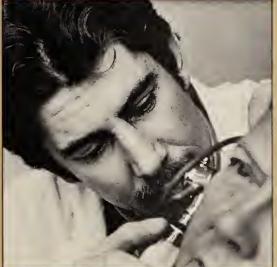
Lecturers on Otolaryngology Werner D. Chasin, M.D. Richard R. Gacek, M.D. Robert S. Kimura, D.M.Sc. Walter A. Rosenblith, Ing. Rad. Senior Research Associate in Otolaryngology Nelson Y. S. Kiang, Ph.D. Research Associates in Otolaryngology Charles C. Lieberman, Ph.D. Terrance R. Bourk, Ph.D. Research Fellows in Otolaryngology Lucia-Maria Cabezudo, M.D. Kevin P. Gibbin, M.D. Rudolf J. Hausler, M.D. Alastair H. Pettigrew, M.D. Syed S. Rizvi, M,D. Principal Associate in Otolaryngology John W. Irwin, M.D. Clinical Fellows in Otolaryngology William S. Fisher, III, M.D. Richard M. Levinson, M.D. David E. Nash, M.D. Edward J. Reardon, M.D.

Howard G. Smith, M.D.



(Top) More than 6,500 patients were seen during 1977 in the Glaucoma Consultation Service, one of the busiest specialty services in the Infirmary.

(Bottom) Infirmary physicians make frequent visits to inpatients recuperating from surgery.



Department of Ophthalmology Surgical and Research Staffs

*Abelson, Mark B., ALLANSMITH, M. R., Kajiyama, G., Simon, M. A.: Plasma cell content of main and accessory lacrimal glands and conjunctiva. Am. J. Ophthalmol. 82:819-26, Dec. 1976.

ABELSON, Mark B., Soter, N. A., Simon, M. A., Dohlman, J., Allansmith, M. R.: Histamine in human tears. Am. J. Ophthalmol. 83:417-18, Mar.

ABELSON, Mark B., Pavan-Langston, D.: Viral uveitis. Int. Ophthalmol. Clin. 17:109-20, Fall 1977.

Abelson, Mark B., COLLIN, H. B.: Herpes simplex virus in human cornea, retrocorneal fibrous membrane and vitreous. Arch. Ophthalmol. 94:1726-29, Oct. 1976.

Abelson, Mark B. (See PAVAN-LANGSTON, D.) AIELLO, Lloyd M., Briones, J. C.: Ruby laser coagulation of proliferating diabetic retinopathy: fifth year followup. Int. Ophthalmol. Clin. 16:15-27, Winter 1976.

AIELLO, Lloyd M.: Fluorescein angiographic interpretation of mircocirculatory abnormalities of diabetic retinopathy. Chapter in: Current Diagnosis and Management of Chorioretinal Diseases/ edited by Francis A. L'Esperance. — St. Louis. Mosby, 1977. pp. 192-208.

AIELLO, Lloyd M., Briones, J. D., Beetham, W. P.: Ruby laser photocoagulation of proliferative diabetic retinopathy. Chapter in: Current Diagnosis and Management of Chorioretinal Diseases/ edited by Francis A. L'Esperance. — St. Louis. Mosby, 1977. pp. 261-68.

Aiello, Lloyd M. (See SIMMONS, R. J.) ALBERT, Daniel M., Fulton, A., Buyukmihci, N.:

Comparative ophthalmic pathology. Invest. Ophthalmol. Visual Sci. 15:975-78, Dec. 1976.

Albert, Daniel M., KELTNER, J.L., Lubow, M., Fritsche, E., Davey, L. M.: Optic nerve decompression: a clinical pathological study. Arch. Ophthalmol. 95:97-104, Jan. 1977.

ALBERT, Daniel M., Puliafito, C. A.: Choroidal melanoma: possible exposure to industrial toxins. N. Engl. J. Med. 296:634-35, 17 Mar. 1977.

Albert, Daniel M., KELTNER, J. L., Fritsche, E., Cykiert, R. C.: Mycosis fungiodes: intraocular and central nervous system involvement. Arch. Ophthalmol. 95:645-50, Apr. 1977.

Albert, Daniel M., BUYUKMIHCI, N., Marsh, R. F., Zelinski, K.: Ocular effects of scrapie agent in hamsters: preliminary observations. Invest. Ophthalmol. Visual Sci. 16:319-24, Apr. 1977.

ALBERT, Daniel M., Lehav, M., Colby, E. D., Shadduck, J. A., Sang, D. N.: Retinal neoplasia and dysplasia. I. Induction by female leukemia virus. Invest. Ophthalmol. Visual Sci. 16:325-37, Apr. 1977.

Albert, Daniel M., IRVINE, A. R, Sang, D. L.: Retinal neoplasia and dysplasia. II. Retinoblastoma occurring with persistance and hyperplasia of the primary vitreous. Invest. Ophthalmol. Visual Sci. 16:403-07, May 1977.

Albert, Daniel M., BURCH, P. G.: Transscleral ocular siderosis. Am. J. Ophthalmol. 84:90-7, July

ALBERT, Daniel M., O'Connell, M.: Ophthalmology in the United States at the time of the Revolution. Surv. Ophthalmol. 22:48-56, July-Aug. 1977.

Albert, Daniel M., SCHEIE, H. E.: Textbook of Ophthalmology/ Harold E. Scheie and Daniel M. Albert. — 9th ed. — Philadelphia. Saunders, 1977.

Anderson, Douglas P. (See GRIFFIN, J. F.) Barañano, Eduardo C. (See CHENG, H. M.) Beetham, William P. (See AIELLO, L. M.) BELLOWS, A. Robert.: Another possible approach. Rhode Island Med. J. 60:203-04, Apr.

BEYER, Charles K.: Lacrimal trephine. Arch. Ophthalmol. 94:2155-56, Dec. 1976.

BEYER, Charles K.: The management of special problems associated with Stevens-Johnson syndrome and ocular pemphigoid. Trans. Am. Acad. Ophthalmol. Otolaryngol. 83:OP-701-OP-707, July-Aug. 1977.

Beyer, Charles K., REEH, M. J.: Mismanaged trauma. Chapter in: Management and Complications in Ophthalmic Plastic Surgery/edited by David B. Soll. - Birmingham. Aesculapius, 1976. pp. 78-92.

BEYER, Charles K., Smith, B.: Naso-orbital fractures: their complications and treatment. Chapter in: Symposium on Plastic Surgery in the Orbital Region/ edited by Paul Tessier et al. — St. Louis. Mosby, 1976. pp. 107-12.

BEYER, Charles K., Smith, B.: Medial canthoplasty. Chapter in: Ophthalmic Plastic Surgery/ edited by B. Silver. — Rochester, Minnesota. Am. Acad. Ophthalmol. Otolaryngol. 1977.

BERSON, Eliot L.: Hereditary retinal diseases: classification with the full-field electroretinogram. Doc. Ophthalmol. Proc. 13:149-71, 1977.

Berson, Eliot L. (See SANDBERG, M. A., SCHMIDT, S. Y., SZAMIER, R. B.)

BORUCHOFF, S. Arthur: Corneal surgery. Chapter 6 in: Clinical Ophthalmology. Volume 5. Ophthalmic Surgery/ edited by Thomas D. Duane -Hagerstown, Md. Harper and Row, 1976. 10 p. Boruchoff, S. Arthur (See BROCKHURST, R. J.)

BROCKHURST, Robert J.: Complications of closed vitrectomy. Chapter in: Vitreous Surgery and Advances in Fundus Diagnosis and Treatment/ edited by H. MacKenzie Freeman et al. — New York. Appleton-Century-Crofts, 1977. pp. 377-87.

BROCKHURST, Robert J., Boruchoff, S. A., Hutchinson, B. T., Lessell, S.: Controversy in Ophthalmology/ edited by Robert J. Brockhurst et al. - Philadelphia. Saunders, 1977, 959 p.

Brockhurst, Robert J. (See CARDOSO, R. D., GRAGOUDAS, E. S.)

BUZNEY, Sheldon M., Frank, R. N., Varma, S. D., Tanishima, T., Gabbay, K. H.: Aldose reductase in retinal mural cells. Invest. Ophthalmol. Visual Sci. 16:392-96, May 1977.

CAMPBELL, David G., Simmons, R. J., Tolentino, F. I., McMeel, J. W.: Glaucoma occurring after closed vitrectomy. Am. J. Ophthalmol. 83:63-9, Jan. 1977.

CAMPBELL David G.: Erythroclast glaucoma following vitrectomy. Chapter in: Vitreous Surgery and Advances in Fundus Diagnosis and Treatment/ edited by H. MacKenzie Freeman et al. — New York. Appleton-Century-Crofts, 1977, pp. 365-68.

CARDOSO, Renota D., Brockhurst, R. J.: Perforating diathermy coagulation for retinal angiomas. Arch. Ophthalmol. 94:1702-15, Oct. 1976. Cardoso, Renota D. (See RIVA, C.)

CHANDLER, Paul A.: Progress in the treatment of glaucoma in my lifetime. Surv. Ophthalmol. 21:412-28, Mar.-Apr. 1977.

CHANDLER, Paul A., Grant, W. M.: "Ocular hypertension" or "early glaucoma?" "Ocular hypertension" vs open-angle glaucoma. Arch. Ophthalmol. 95:585-86, Apr. 1977.

CHANDLER, Paul A., Grant, W. M.: Further comments on "ocular hypertension." Arch. Ophthalmol. 95:1083, June 1977.

CHANDLER, Paul A., Simmons, R. J.: Chorioretinal detachment and flat anterior chamber after filtering operation. Chapter in: Controversy in Ophthalmology/ edited by Robert J. Brockhurst et al. Philadelphia. Saunders, 1977, pp. 236-40.

Chandler, Paul A. (See SIMMONS, R. J.)

CHENG, Hong-Ming, Chylack, L. T., Jr., Chien, J., Barañano, E. C.: Stability of mammalian lens phosphofructokinase. Invest. Ophthalmol. Visual Sci. 16:126-34, Feb. 1977.

CHENG, Hong-Ming, Chylack, L. T., Jr.: Regulation and stabilization of lens glucose-6-phosphate dehydrogenase. Exp. Eye. Res. 24:459-66, May 1977.

Chien, J. (See CHENG, H. M.)

CHYLACK, Leo T., Jr.: Progress in research about treatment of human cataracts. Medical Tribune,

Chylack, Leo T., Jr., CALABRO, J. J.: Iridocyclisis associated with juvenile rheumatoid arthritis. Am. J. Ophthalmol. 84:274-75, Aug. 1977.

Chylack, Leo T., Jr., TANAKA, T., Ishimoto, C.: Phase separation of a protein water mixture in cold cataract in the young rat lens. Science 197:1010-12, 2 Sept. 1977.

Chylack, Leo T., Jr. (See CHENG, H. M.) Cogan, David G., FISHMAN, M. L., Bean, S. C.: Optic atrophy following prophylactic chemotherapy and cranial radiation for acute lymphocytic leukemia. Am. J. Ophthalmol. 82:571-76, Oct. 1976.

COGAN, David G., Yee, R. D.: Experimental myelin intrusion in the nerve head. Invest. Ophthalmol. Visual Sci. 16:461-68, May 1977.

COGAN, David G.: Immunosuppression and eye disease. First Vail Lecture. Am. J. Ophthalmol. 83:777-88, June 1977.

Cogan, David G., YEE, R. D., Thorp, T. R., Schut, L.: Optic nerve compression due to aneurysmal bone cyst. Arch. Ophthalmol. 95:2176-79, Dec. 1977.

Cogan, David G., KOLLARITS, C. R., Moss, M. L., Doppman, J. L., DiChiro, G., Cutler, G., Marx, S. L., Speigel, A. M.: Scleral calcifications in hyperparathyroidism: demonstration by computed tomography. J. Comput. Tomography. 1:500-04, 1977.

COGAN, David G.: Enigmas and Hypotheses. Chapter in: Eye Movements ARVO Symposium 1976/ edited by Barbara A. Brooks and Frank J. Bajandas. - New York, London. Plenum, 1977, pp. 1-8.

COGAN, David G., Robins, S. M.: Neuroophthalmic disorders. Chapter in: Human Health and Disease/ edited by P. L. Altman and D. D. Katz. -Bethesda. FASEB, 1977, pp 288-93.

Albert, Daniel M., LEHAV, M., Buyukmihci, N., Jambol, L., McLean, E. B., Howard, R., Craft, J.: Ocular changes in Laurence Moon Bardet Beidl syndrome: a clinical and histopathological study of a case. Adv. Exp. Med. Biol. 77:51-84, 1977.

^{*}First Author in Capitals.

CONSTABLE, Ian J.: Pathology of vitreous membranes. Effects of vitreous replacement with gases: preliminary note on perfluoropentane. Chapters in: Vitreous Surgery and Advances in Fundus Diagnosis and Treatment/ edited by H. MacKenzie Freeman et al.—New York. Appleton-Century-Crofts, 1977, pp. 51-56, 427-31.

CONSTABLE, Ian J., Schepens, C. L.: Open-sky vitrectomy: indications and preliminary results. Chapter in: *Ibid.* pp. 451-63.

CONSTABLE, Ian J.: Pathophysiological implications of vitreous surgery. Chapter in: Controversy in Ophthalmology/ edited by Robert J. Brockhurst et al. Philadelphia. Saunders, 1977, pp. 488-95.

CONSTABLE, Ian J., Gragoudas, E. S.: Proton irradiation for small malignant melanomas of the choroid. Chapter in: *Ibid.* pp. 626-34.

Constable, Ian J. (See GRAGOUDAS, E. S., PRUETT, R. C., SCHEPENS, C. L., ZINN, K. M.)

Craft, Joseph L. (See Albert, D. M.)

DALLOW, Richard L.: Comparative techniques of ophthalmic ultrasonography. Ophthalmic Digest 39:12-16, Feb. 1977.

DALLOW, Richard L.: Ultrasonography in the diagnosis of orbital diseases. Chapter in: Controversy in Ophthalmology/ edited by Robert J. Brockhurst et al. — Philadelphia. Saunders, 1977, pp. 326-42.

Dallow, Richard L., COLEMAN, D. J.: Introduction to ophthalmic ultrasonography. Orbital ultrasonography. Chapters 25 and 27 in: Clinical Ophthalmology. Volume 2. Neuro-Ophthalmology/edited by Thomas D. Duane. — Hagerstown, Md. Harper and Row, 1976. 5 p., 16 p.

Dallow, Richard L., BILANIUK, L. T.: Diagnostic techniques in orbital surgery. Chapter in: Management of Complications in Ophthalmic Plastic Surgery/edited by David B. Soll. — Birmingham. Aesculapius, 1976. pp. 17-44.

Dallow, Richard L. (See SIMMONS, R. J., SULLIVAN, S. F.)

Dohlman, Claes H., HOLLY, F. J., Patten, J. T.: Surface activity determination of aqueous tear components in dry eye patients and normals. Exp. Eye. Res. 24:479-91, May 1977.

Dohlman, Claes H., MOBILIA, E., Holly, F.: A comparison of various soft contact lenses for therapeutic purposes. Contact and Intraocular Lens Med. J. 3:9-15, 1977.

Dohlman, Claes H. (See LEE, J. R.)

Donaldson, David D., ROSENTHAL, A. R., Kottler, M. S., Falconer, D. G.: Comparative reproducibility of the digital photogrammatic procedure utilizing three methods of stereophotography. Invest. Ophthalmol. Visual Sci. 16:54-60, Jan. 1977. Dueker, David K. (See SIMMONS, R. J.)

DUNPHY, Edwin B.: A conservative approach to the malignant melanoma problem. Chapter in: Controversy in Ophthalmology/ edited by Robert J. Brockhurst et al. — Philadelphia. Saunders, 1977, pp. 611-13.

EDWARDS, Ross B.: Accumulation of taurine by cultured retinal pigment epithelium of the rat. Invest. Ophthalmol. Visual Sci. 16:201-08, Mar. 1977.

EDWARDS, Ross B.: Culture of rat retinal pigment epithelium. In Vitro 13:301-04, May 1977.

EDWARDS, Ross B., Szamier, B.: Defective phagocytosis of isolated rod outer segments by rat retinal pigment epithelium in culture. Science 197:1001-03, 2 Sept. 1977.

EPSTEIN, David L.: Cystoid macular edema occurring 13 years after cataract extraction. Am. J. Ophthalmol. 83:501-03, Apr. 1977.

Epstein, David L., FUKUI, H. N., Iwata, S., Merola, L. O.: Cataractogenic effects of a boron hydride sulfide compound. Invest. Ophthalmol. Visual Sci. 16:654-57, July 1977.

EPSTEIN, David L., Grant, W. M.: Carbonic anhydrase inhibitor side effects: serum chemical analysis. Arch. Ophthalmol. 95:1378-82, Aug. 1977.

EPSTEIN, David L., Grant, W. M.: Secondary open-angle glaucoma in histiocytosis-X. Am. J. Ophthalmol. 84:332-36, Sept. 1977.

FIELD, Richard A.: Vitreous surgery: preoperative work-up. Chapter in: Vitreous Surgery and Advances in Fundus Diagnosis Treatment/ edited by H. MacKenzie Freeman et al. — New York. Appleton-Century Crofts, 1977, pp. 99-103.

Field, Richard A. (See McMEEL, J. W.)

FREEMAN, H. MacKenzie, Tolentino, F. I., Schepens, C. L.: Current indications for vitreous surgery. Acta Concilium Ophthalmologica, Paris 2:11-22, 1976.

FREEMAN, H. MacKenzie, Schepens, C. L., Friedman, G. R.: Symposium: low vision: retinal care. Trans. Am. Acad. Ophthalmol. Otolaryngol. 83:OP-347-OP-350, Mar.-Apr. 1977.

FREEMAN, H. MacKenzie, Hirose, T., Schepens, C. L.: Vitreous Surgery and Advances in Fundus Diagnosis and Treatment/ edited by H. MacKenzie Freeman, Tatsuo Hirose and Charles L. Schepens.

— New York. Appleton-Century-Crofts, 1977, 681 p.

FREEMAN, H. MacKenzie: Surgical technique of mechanical lysis of retinal synechiae. Closed vitrectomy in rhegmatogenous retinal detachment. Chapters in: Vitreous Surgery and Advances in Fundus Diagnosis and Treatment/ edited by H. MacKenzie Freeman et al. — New York. Appleton-Century-Crofts, 1977, pp. 247-55, 279-90.

FREEMAN, H. MacKenzie, Schepens, C. L., Tolentino, F. l.: Current indications for vitreous surgery. Chapter in: *lbid.* pp. 105-23.

FREEMAN, H. MacKenzie, Schepens, C. L.: Surgical technique of vitreous membrane sectioning. Chapter in: *Ibid.* pp. 239-46.

Freeman, H. MacKenzie (See TREMPE, C. L., TOLENTINO, F. I.)

GRAGOUDAS, Evangelos S., Goiten, M., Koehler, A. M., Verhey, L., Tepper, J., Suit, H. D., Brockhurst, R. J., Constable, I. L.: Proton irradiation of small choroidal malignant melanomas. Am. J. Ophthalmol. 83:665-73, May 1977.

Gragoudas, Evangelos S., DELORI, F. C., Francisco, R., Pruett, R. C.: Monochromatic ophthalmoscopy and fundus photography: the normal fundus. Arch. Ophthalmol. 95:861-68, May 1977.

GRAGOUDAS, Evangelos S., Delori, F. C., Pruett, R. C.: Examination of the macula in monochromatic light. Chapter in: Vitreous Surgery and Advances in Fundus Diagnosis and Treatment/edited by H. MacKenzie Freeman et al. — New York. Appleton-Century-Crofts, 1977, pp. 613-24.

Gragoudas, Evangelos (See CONSTABLE, I. J., MADIGAN, J. C., Jr., SCHEPENS, C. L.) GRANT, W. Morton: Vision. Chapter in: *The Horizons of Health/* edited by H. Wechsler et al. — Cambridge, London. Harvard University Press, 1977, pp. 298-312.

GRANT, W. Morton: What is ocular hypertension, and should it be treated? Chapter in: Controversy in Ophthalmology/ edited by Robert J. Brockhurst et al. — Philadelphia. Saunders, 1977, pp. 172-79.

Grant, W. Morton (See CHANDLER, P. A.,

Grant, W. Morton (See CHANDLER, P. A. EPSTEIN, D. L, RICHARDSON, T. M., WAND, M.)

Greiner, Jack V. (See LIU HS).

GRIFFIN, John F., Wray, S. H., Anderson, D. P.: Misdiagnosis of spasm of the near reflex. Neurology 26:1018-20, Nov. 1976.

GROVE, Arthur S., Jr.: Marginal tarsorrhapy: a technique to minimize premature eyelid separation. Ophthalmic Surg. 8:56-9, Feb. 1977.

GROVE, Arthur S., Jr.: Staged excision and reconstruction of extensive facial-orbital tumors. Ophthalmic Surg. 8:91-109, Apr. 1977.

GROVE, Arthur S., Jr.: New diagnostic techniques for the evaluation of orbital trauma. Trans. Am. Acad. Ophthalmol. Otolaryngol. 83:OP-626-OP-640, July-Aug. 1977.

Grove, Arthur S., Jr., SMITH, B., Guibor, P.: Fractures of the orbit. Chapter 48 in: Clinical Ophthalmology. Volume 2. Neuro-Ophthalmology/ edited by Thomas D. Duane. — Hagerstown, MD. Harper and Row, 1976, 10p.

GROVE, Arthur S., Jr.: Radionuclide dacryocystography. Radionuclide evaluation. Sections in: *Handbook Series in Clinical Laboratory Science. Section A. Nuclear Medicine*/ edited by D. Selegson and R. P. Spencer. — Cleveland. CRC press, 1977, pp. 90-96, 97-107.

GROVE, Arthur S., Jr.: Orbital evaluation: the role of radionuclide examination. Chapter in: *Nuclear Ophthalmology*/ edited by M. N. Croll et al. — New York. Wiley, 1976, pp. 199-215.

HIROSE, Tatsuo, Miyake, Y., Hara, A.: Simultaneous recording of electroretinogram and visual evoked response. Focal stimulation under direct observation. Arch. Ophthalmol. 95:1205-08, July 1977.

HIROSE, Tatsuo, Wolf, E., Hara, A.: Electrophysiological and psychophysical studies in congenital retinoschisis of X-linked recessive inheritance. Doc. Ophthalmol. Proc. 13:173-84, 1977.

HIROSE, Tatsuo: Evaluation of retinal function in the presence of vitreous opacities. Chapter in: Vitreous Surgery and Advances in Fundus Diagnosis and Treatment/ edited by H. MacKenzie Freeman et al.

— New York. Appleton-Century-Crofts, 1977, pp. 79-97.

HIROSE, Tatsuo, Schepens, C. L.: Complications in open-sky vitrectomy. Chapter in: *Ibid.* pp. 479-95.

Hirose, Tatsuo (See FREEMAN, H. M.)

HOLLAND, Peter M., Smith, T. R.: Broad scleral buckle in the management of retinal detachments with giant tears. Am. J. Ophthalmol. 83:518-25, Apr. 1977.

Huang, Caecelia (See SCHMIDT, S. Y.)
Hutchinson, B. Thomas (See BROCKHURST, R. J., RICHARDSON, T. M., WAND, M.)
Kaufman, Jay H. (See SLOANE, A. E.)
Kimbrough, Richard L. (See SIMMONS, R. J.)
Kini, Mohandas M., KAHN, H. A., Liebowitz, H. M., Ganley, J. P., Colton, T., Nickerson, R. S., Dawber, T. R.: The Framingham eye study: I. Outline and major prevalence findings. II. Association of ophthalmic pathology with single variables previously measured in the Framingham heart study. Am. J. Epidemiol. 106:17-32, 33-41, July 1977.

Kini, Mohandas M., LIEBOWITZ, H. M., Lessell, S., Richman, M.: Injuries of the eye. Chapter in: Forensic Medicine F N, Volume 1/ edited by Tedeschi et al. — Saunders, 1977, pp. 88-131.

Kraut, Joel A. (See SLOANE, A. E.) Lapus, Jaime V. (See MADIGAN, J. C., Jr., RIVA, C. E.)

LlU, Hsiao-Su, Tolentino, F. I., McGannon, W. J., Schepens, C. L.: Massive cataract relief in eye camps. Ann. Ophthalmol. 9:503-08, Apr. 1977.

LIU, Hsiao-Su, Tolentino, F. I., Greiner, J. V.: Phacocryolysis and phacoemulsification. Am. J. Ophthalmol. 83:805-09, June 1977.

LEE, James R., Dohlman, C. H.: Intraocular lens implantation in combination with keratoplasty. Ann. Ophthalmol. 9:513-18, Apr. 1977.

McMEEL, J. Wallace, Trempe, C. L., Franks, E. B.: Symposium: current status of photocoagulation of macular disease. Diabetic retir.opathy. Trans. Am. Acad. Ophthalmol. Otolaryngol. 83:OP-487-OP-496, May-June 1977.

McMEEL, J. Wallace, Field, R. A.: Pituitary ablation: treatment for diabetic retinopathy. Chapter in: Controversy in Ophthalmology/ edited by Robert J. Brockhurst et al. — Philadelphia. Saunders, 1977, pp. 686-93.

McMEEL, J. Wallace: Photocoagulation approach wit various diabetic vitreoretinal problems. Chapter in: Current Diagnosis and Management of Chorioretinal Diseases/ edited by Francis A. L'Esperance. — St. Louis. Mosby, 1977, pp. 269-70.

McMEEL, J. Wallace: Endodiathermy: surgical technique and results. Closed vitrectomy in diabetic retinopathy. Chapters in: *Vitreous Surgery and Advances in Fundus Diagnosis Treatment/* edited by H. MacKenzie Freeman et al. — New York. Appleton-Century-Crofts, 1977, pp. 257-61, 305-13.

McMeel, J. Wallace, BEN-SIRA, I., Riva, C. E., Roberts, W., Trempe, C.: Hemodynamic measurements in the human eye using fluorescein dye. Chapter in: *lbid.* pp. 569-75.

McMEEL, J. Wallace: Closed vitrectomy. Vitreous surgery. Retinal ablation by photocoagulation. Scleral surgery for treatment of retinal detachment associated with proliferative diabetic retinopathy. Other treatments for diabetic retinopathy. Chapters in: Symposium on Retinal Disease. Transactions of the New Orleans Academy of Ophthalmology. — St. Louis. Mosby, 1977, pp. 28-31, 68-72, 116-18, 159-64, 170-73.

McMeel, J. Wallace (See CAMPBELL, D. G., RIVA, C. E., SCHEPENS, C. L., TOLENTINO, F. I., TREMPE, C. L.)

MADIGAN, John C., Jr., Gragoudas, E. S., Schwartz, P. L., Lapus, J. V.: Peripheral retinal neovascularization in sarcoidosis and sickle cell anemia. Am. J. Ophthalmol. 83:387-91, Mar. 1977.

MILLER, David, Friedlander, M. H.: Allergic conditions of the eye. Annu. Rev. Allergy: 274-87, 1976-76.

MILLER, David: Effect of soft lenses postoperatively. Contact and Intraocular Lens Med. J. 2:30-31, 1976.

MILLER, David, Johnson, R.: Quantification of the pinhole effect. Surv. Ophthalmol. 21:347-50, Jan.-Feb. 1977.

MILLER, David, O'Connor, P.: The influence of the nictitating membrane on steroid inhibition of limbal wound healing. Acta Ophthalmol. 55:586-90, Aug. 1977.

Miller, David, REINECKE, Robert D.: Strabismus, a Programmed Text/ Robert D. Reinecke and David Miller. — 2nd ed. — New York. Appleton-Century-Crofts, 1977, 319 p.

North, Richard D. (See PAVAN-LANGSTON, D.)

Patten, James T. (See Dohlman, C. H.)

PAVAN, Peter R., Ennis, F. A.: The elimination of herpes simplex plagues by antibody and the emergence of resistant strains. J. Immunol. 118:2167-75, June 1977.

PAVAN-LANGSTON, Deborah, North, R. D., Geary, P. A., Kinkel, A.: Intraocular penetration of the soluble antiviral Ara AMP. Arch. Ophthalmol. 94:1585-88, Sept. 1976.

PAVAN-LANGSTON, Deborah.: Use of vidarabine in ophthalmology: a review. Ann. Ophthalmol. 9:835-39, July, 1977.

PAVAN-LANGSTON, Deborah, Hess, F.: Ocular and systemic antiviral activity of vidarabine. Comp. Ther. 3:42-8, July 1977.

PAVAN-LANGSTON, Deborah, Abelson, M. B.: The role of steroids in ocular herpes. Chapter in: Controversy in Ophthalmology/ edited by Robert J. Brockhurst et al. — Philadelphia. Saunders, 1977, pp. 438-49.

Pavan-Langston (See ABELSON, M. B.)

PETERSEN, Robert A., Walton, D. S.: Optic nerve hypoplasia with good visual acuity and visual field defects. a study of children of diabetic mothers. Arch. Ophthalmol. 95:254-58, Feb. 1977.

PETERSEN, Robert A.: Ophthalmology. Chapter in: *Hearing Loss in Children*/ edited by Burton F. Jaffe. — Baltimore. University Park Press, 1977, pp. 228-40.

Pruett, Ronald C., BELL, F. C.: Effects of cryotherapy on extraocular muscle. Ophthalmic Surg. 8:71-75, 1977.

PRUETT, Ronald C., Schepens, C. L., Constable, I. J., Swann, D. A.: Hyaluronic acid vitreous substitute. Chapter in: Vitreous Surgery and Advances in Fundus Diagnosis and Treatment/ edited by H. MacKenzie Freeman et al. — New York. Appleton-Century-Crofts, 1977, pp. 433-44.

Pruett, Ronald C. (See GRAGOUDAS, E. L., SCHWARTZ, P. L.)

REGAN, Charles D. J.: Symposium: current status of photocoagulation of macular disease. Introduction and conclusions. Trans. Am. Acad. Ophthalmol. Otolaryngol. 83:OP-496-OP-498, May-June 1977.

RICHARDSON, Thomas M., Hutchinson, B. T., Grant, W. M.: The outflow tract in pigmentary glaucoma. Arch. Ophthalmol. 95:1015-25, June 1977.

RIVA, Charles E., Roberts, W. P., McMeel, J. W., Ben Sira, I.: Arteriovenous mean circulation time in the human retina. Doc. Ophthalmol. Proc:113-16, 1976.

Riva, Charles E., BEN-SIRA, I., Roberts, W., Trempe, C., McMeel, J. W.: Hemodynamic measurements in the human eye using fluorescein dye. Chapter in: Vitreous Surgery and Advances in Fundus Diagnosis and Treatment/ edited by H. MacKenzie Freeman et al. — New York. Appleton-Century-Crofts, 1977, pp. 569-75.

RIVA, Charles E., Ben-Sira, I., Cardoso, R., Hernandez, L., Lapus, J.: Fluorophotometric recordings of dilution curves in the human ocular fundus. Chapter in: *Ibid.* pp. 577-85.

ROBB, Richard M.: Refractive errors associated with hemangioma of the eyelid and orbit in infancy. Am. J. Ophthalmol. 83:52-58, Jan. 1977.

ROBB, Richard M.: Children's ophthalmic problems. Hosp. Pract. 12:107-15, Apr. 1977.

ROBB, Richard M.: Children's ophthalmic problems. Sight Sav. Rev. 47: 9-17, Spring 1977.

ROBB, Richard M.: When should one operate for congenital strabismus? Chapter in: Controversy in Ophthalmology/ edited by Robert J. Brockhurst et al. — Philadelphia. Saunders, 1977, pp. 431-33.

SANDBERG, Michael A., Berson, E. L.: Blue and green cone mechanisms in retinitis pigmentosa. Invest. Ophthalmol. Visual Sci. 16:149-57, Feb. 1977

Sang, Delia N. (See ALBERT, D. M.)

SCHEPENS, Charles L., Gragoudas, E. S., McMeel, J. W.: Argon laser treatment in supine position. Ann. Ophthalmol. 9:123-34, Feb. 1977. SCHEPENS, Charles L.: Parameters for comparison of vitrectomy instruments. Summary of instrument presentation. Summation: risks versus benefits. The future. Chapters in: Vitreous Surgery and Advances in Fundus Diagnosis and Treatment/ edited by H. Mac-Kenzie Freeman et al. — New York. Appleton-Century-Crofts, 1977, pp. 179-81, 231-37, 509-11, 659-61.

SCHEPENS, Charles L., Constable, I. J.: Open-sky vitrectomy: operative technique and instrumentation. Chapter in: *Ibid.* pp. 465-77.

Schepens, Charles L., DELORI, F. C.: The Underwater diathermy electrode. Chapter in: *Ibid.* pp. 175-77.

SCHEPENS, Charles L.: The vitreous: can we violate it and go unpunished? How should retinal breaks be closed? Chapters in: Controversy in Ophthalmology/ edited by Robert J. Brockhurst et al. — Philadelphia. Saunders, 1977, pp. 496-512, 566-81.

Schepens, Charles L. (See CONSTABLE, I. J., FREEMAN, H. M., HIROSE, T., LIU, H. S., PRUETT, R. C., TARDIF, Y. M., TOLENTINO, F. I., TREMPE, C. L., ZINN, K. M.)

SCHMIDT, Susan Y., Berson, E. L., Watson, G., Huang, C.: Retinal degeneration in cats fed casein. II. Taurine deficiency and ERG amplitudes. Invest. Ophthalmol. Visual Sci. 16:673-8, July 1977.

SCHWARTZ, Peter L., Pruett, R. C.: Factors influencing retinal detachment after removal of buckling elements. Arch. Ophthalmol. 95:804-07, May 1977.

Schwartz, Peter L. (See MADIGAN, J. C., Jr.) SIMMONS, Richard J., Dueker, D. K., Kimbrough, R. L., Aiello, L. M.: Goniophotocoagulation for neovascular glaucoma. Trans. Am. Acad. Ophthalmol. Otolaryngol. 83:OP-80-OP-89, Jan.-Feb. 1977.

SIMMONS, Richard J., Dallow, R. L.: Primary angle-closure glaucoma. Chapter 53 in: Clinical Ophthalmology. Volume 3. Diseases of the Retinal edited by Thomas D. Duane — Hagerstown, MD. Harper and Row, 1976, 31 p.

SIMMONS, Richard J., Chandler, P. A.: Early discharge after cataract surgery. Chapter in: Controversy in Ophthalmology/ edited by Robert J. Brockhurst et al. — Philadelphia. Saunders, 1977, pp. 118-24.

^{*}First Author in Capitals.

Simmons, Richard J. (See CAMPBELL, D. G., CHANDLER, P. A., WAND, M.)

SLOANE, Albert E.: Perspectives on management of aphakia after 40 years. Ophthalmic Surg. 8:75-7, Aug. 1977.

SLOANE, Albert E., Kraut, J. A.: Medical care of the adolescent. Chapter in: *Problems Relating to Vision.*—New York. Appleton-Century-Crofts, 1976, pp. 311-31.

SLOANE, Albert E., Kaufman, J. H.: More on cataract surgery. Chapter in: Controversy in Ophthalmology/ edited by Robert J. Brockhurst et al. — Philadelph a. Saunders, 1977, pp. 62-8.

Smith, Taylor R. (See HOLLAND, P. M.)

SULLIVAN, Stephen F., Dallow, R. L.: Intraocular reticulum cell sarcoma: its dramatic response to systemic chemotherapy and its angiogenic potential. Ann. Ophthalmol. 9:401-06, Apr 1977.

SZAMIER, Bruce, Berson, E. L.: Retinal ultrastructure in advanced retinitis pigmentosa. Invest. Ophthalmol. Visual Sci. 16:947-62, 1977.

Szamier, Bruce (See EDWARDS, R. B.)

TARDIF, Yvon M., Schepens, C. L., Tolentino, F. I.: Vitreous surgery. XIV. Complications from sclerotomy in 89 consecutive cases. Arch. Ophthalmol. 95:229-34, Feb. 1977.

TARDIF, Yvon M., Schepens, C. L.: Closed vitreous surgery. XV. Fibrovascular ingrowth from the pars plana sclerotomy. Arch. Ophthalmol. 95:235-39, Feb. 1977.

TASMAN, William: Cataract extraction with sector iridectomy and pars plana vitrectomy. Chapter in: Vitreous Surgery and Advances in Fundus Diagnosis and Treatment/ edited by H. MacKenzie Freeman et al. — New York. Appleton-Century-Crofts, 1977, pp. 415-19.

THOFT, Richard A., Friend, J.: Biochemical transformation of regenerating ocular surface epithelium. Invest. Ophthalmol. Visual Sci. 16:14-20, Jan. 1977.

THOFT, Richard A.: Conjunctival transplantation. Arch. Ophthalmol. 95:1425-27, Aug. 1977.

TOLENTINO, Felipe I., Freeman, H. M., Schepens, C. L.: Optical methods of vitreoretinal examination. Chapter in *Vitreous Surgery and Advances in Fundus Diagnosis and Treatment/* edited by H. Mac-Kenzie Freeman et al. — New York. Appleton-Century-Crofts, pp. 57-61.

TOLENTINO, Felipe I., Freeman, H. M., Schepens, C. L.: Observation and illumination system for closed vitreous surgery. Chapter in: *lbid.* pp. 139-47. TOLENTINO, Felipe I., Schepens, C. L., Banko, A., Freeman, H. M., Lee, P. F.: Automated vitrectomy and lensectomy system. Chapter in: *lbid.* pp. 201-11.

TOLENTINO, Felipe I., Freeman, H. M., McMeel, J. W., Schepens, C. L.: Closed vitrectomy and lens removal. Chapter in: *lbid.* pp. 401-14.

Tolentino, Felipe I. (See CAMPBELL, D. G., FREEMAN, H. M., LIU, H. S., TARDIF, Y. M.)

TREMPE, Clement L., Schepens, C. L., Freeman, H. M.: Schematic drawing and color code use in ophthalmologic ultrasound reports. Chapter in: *Ultrasound in Medicine*, *Volume 3A*/ edited by D. White and R. E. Brown. — New York. Plenum, 1977, pp. 939-42.

Trempe, Clement L. (See McMEEL, J. W., Riva, C. E.)

VAN BUSKIRK, E. Michael: Trabeculotomy in the immature, enucleated human eye. Invest. Ophthalmol. 16:63-5, Jan. 1977.

Walton, David S., RIDGWAY, E. W., Jaffe, N.: Leukemic ophthalmopathy in children. Cancer 38:1744-49, Oct. 1976.

Walton, David S. (See PETERSON, R. A.) WAND, Martin, Grant, W. M., Simmons, R. J.,

Hutchinson, B. T.: Plateau iris syndrome. Trans. Am. Acad. Ophthalmol. Otolaryngol. 83:OP-122-OP-130, Jan.-Feb. 1977.

Watson, Gail (See SCHMIDT, S. Y.)

Wolf, Ernst (See HIROSE, T.)

Wray, Shirley H., TABIRA, T., Webster, H. D.: In vivo test for myelinotoxicity of cerebrospinal fluid. Brain Res. 120; 103-12, Jan, 1977.

Wray, Shirley H., BRODSKY, F. M., Tabira, T., Webster, H. D.: Preparation of whole mounts of rabbit retina for examination with the differential-interference microscope: a technique for morphological studies of CNS demyelination. Brain Res. 124:140-46, Mar. 1977.

WRAY, Shirley H.: Retinopathy associated with defects in metabolism. Chapter 29 in: Clinical Ophthalmology. Volume 3. Diseases of the Retinal edited by Thomas D. Duane — Hagerstown, MD. Harper and Row, 1976, 38 p.

WRAY, Shirley H.: ACTH and oral corticosteroids in the treatment of acute optic neuritis. Chapter in: Controversy in Ophthalmology/ edited by Robert J. Brockhurst et al. — Philadelphia. Saunders, 1977, pp. 830-38.

Wray, Shirley H. (See GRIFFIN, J. F.)

ZINN, Keith M., Constable, I. J., Schepens, C. L.: The fine structure of human vitreous membranes. Chapter in: Vitreous Surgery and Advances in Fundus Diagnosis and Treatment/ edited by H. MacKenzie Freeman et al. — New York. Appleton-Century-Crofts, 1977, pp. 39-49.

Department of Otolaryngology Surgical and Research Staffs

*ADAMS, Joseph C.: Single unit studies of the dorsal and intermediate acoustic striae. J. Comp. Neurol. 170:97-106, 1 Nov. 1976.

ADAMS, Joseph C., Warr, W. B.: Origins of axons in the cat's acoustic striae determined by injection of horseradish peroxidase into severed tracts. J. Comp. Neurol. 170:107-121, 1 Nov. 1976.

ANTOLI-CANDELA, Francisco Jr., McGill, T., Peron, D.: Histopathological observations on the cochlear changes in otosclerosis. Ann. Otol. Rhinol. Laryngol. 86:813-20, Nov.-Dec. 1977.

BROWNING, George G., Plantenga, J. F.: Surgery for Meniere's disease. Br. Med. J. 1(6061):642, Mar. 1977.

BURTNER, David, Goodman, M. L.: Traumatic neuroma of the nose. Arch. Otolaryngol. 103:108-09, Feb. 1977.

CHASIN, Werner D.: Children's otolaryngologic problems. Hosp. Pract. 12:103-08, 111-12, 115-17, Feb. 1977.

CHASIN, Werner D.: Pediatric otolaryngologic crises. Hosp. Pract. 12:89-96, 101-02, Mar. 1977. Gacek, Richard R., WILSON, V. J., Maeda, M., Uchino Y.: Saccular and ultricular input to cat neck motoneurons. J. Neurophysiol. 40:63-73, Jan. 1977.

Gacek, Richard R., MALMGREN, L. T., Lyon, M. J.: Localization of abductor and adductor fibers in the kitten recurrent laryngeal nerve: use of a variation of the horseradish peroxidase tracer technique. Exp. Neurol. 55:187-98, Apr. 1977.

GACEK, Richard R.: Anatomy and physiology of the vestibular nerve. Pathology of vertigo. Transmeatal surgery for benign paroxysmal positional vertigo. Chapters in: *Neurological Surgery of the Earl* edited by Herbert Silverstein and Horace Norell. — Birmingham. Aesculapius, 1977, pp. 68-82, 103-14, 157-67.

Gacek, Richard R. (See WEBER, A. L.)

Goodman, Max L., GLASSCOCK, M. E.: Case records of the Massachusetts General Hospital: facial palsy and an intracranial mass in a 59-year-old man. N. Engl. J. Med. 296:271-76, 3 Feb. 1977.

GOODMAN, Max L., Irwin, J. W.: Response of mammalian microvasculature to intravenous endotoxin. Anat. Rec. 187:590-91, Apr. 1977.

Goodman, Max L., LESSELL, S.: Case records of the Massachusetts General Hospital: Abrupt visual loss and retinal lesions in an elderly woman. N. Engl. J. Med. 297:492-501, 1 Sept. 1977.

Goodman, Max L. (See BURTNER, D., KLENOFF, B. H., MOMOSE, K. J.)

GOTAY-RODRIGUEZ, Victor M.: Unusual otologic manifestations of chronic lymphocytic leukemia. Laryngoscope 86:1856-63, Dec. 1976.

GOTAY-RODRIGUEZ, Victor M., Schuknecht, H. F.: Experiences with type IV tympanomastoidectomy. Laryngoscope 87:522-28, Apr. 1977.

Hammerschlag, Paul E. (See SCHUKNECHT, H. F.)

Irwin, John W. (See GOODMAN, M. L.)

Jones, Diane D. (See KIMURA, R. S.) Kahn, Amy R. (See KIANG, N. Y. S.)

KIANG, Nelson Y. S., Liberman, M. C., Levine, R. A.: Auditory-nerve activity in cats exposed to ototoxic drugs and high intensity sounds. Ann. Otol. Rhinol. Otolaryngol. 85:752-68, Nov.-Dec. 1976.

KIANG, Nelson Y. S., Moxon, E. C., Kahn, A. R.: The relationship of gross potentials recorded from the cochlea to single unit activity in the auditory nerve. Chapter in: *Electrocochleography*/ edited by R. J. Ruben, C. Eberling and G. Salomon. — Baltimore. University Park Press, 1976, pp. 95-115.

KIMURA, Robert S., Ota, C. Y., Schuknecht, H. F., Takahashi, T.: Electron microscopic cochlear observations in bilateral Meniere's disease. Ann. Otol. Rhinol. Laryngol. 85:791-801, Nov.-Dec. 1976.

KIMURA, Robert S., Schuknecht, H. F., Ota, C. Y., Jones, D. D.: Experimental study of sacculotomy in endolymphatic hydrops. Arch. Otorhinolaryngol. 217:123-37, Mar. 1977.

KLENOFF, Bruce E., Goodman, M. L.: Mesenchymal cell atypicality in inflammatory polyps. J. Laryngol. Otol. 97:751-56, Sept. 1977.

Levine, Robert A. (See KIANG, N. Y. S.)

Liberman, M. Charles (See KIANG, N. Y. S.)

McGill, Trevor (See ANTOLI-CANDELA, F., Jr.) MILLER, Daniel: Management of keratosis and carcinoma in situ with cryosurgery. Cryosurgery as palliation for carcinoma of the larynx. Pseudosarcoma of the larynx. Chapters in: Workshops from the Centennial Conference on Laryngeal Cancer, Toronto, May 1974/ edited by P. W. Alberti and D. P. Bryce.—New York. Appleton-Century-Crofts, 1976, pp. 151-53, 496-98, 499-500.

Department of Otolaryngology Surgical and Research Staffs

MILLER, Daniel: Treatment of neoplasms of the head and neck with cyrosurgery. Chapter in: Cryosurgical Advances in Dermatology and Tumors of the Head and Neck/ Setrag A. Zacarian. — Springfield, Ill. C. C. Thomas, 1977, pp. 213-33.

MILLER, Daniel: Cryosurgery for treatment for neoplasms of the head and neck. Chapter in: Diseases of the Nose, Throat and Ear/ edited by John Jacob Ballenger. — 12th ed. — Philadelphia. Lea and Febiger, 1977, pp. 558-71.

MONTGOMERY, William W.: Cystic lesions of the petrous apex: transphenoid approach. Ann. Otol. Rhinol. Laryngol. 86:429-35, July-Aug. 1977, (also in: Trans. Am. Otological Soc. Inc., 110th Annual Meeting 65:32-9, 1977).

MONTGOMERY, William W.: Surgical treatment of sinus infections. Complications of sinus disease. Tumors of the nose and paranasal sinuses. Chapters in: Diseases of the Nose, Throat and Earl edited by John Jacob Ballenger. — 12th ed. — Philadelphia. Lea and Febiger, 1977, pp. 198-218, 219-26, 227-36.

Morest, D. Kent, PEUSNER, K. D.: The neuronal architecture and topography of the nucleus vertibularis tangentialis in the late chick embryo. Neuroscience 2:189-207, 1977.

Morest, D. Kent, PEUSNER, K. D.: A morphological study of neurogenesis in the nucleus vestibularis of the chick embryo. Neuroscience 2: 209-27, 1977.

Morest, D. Kent, PEUSNER, K. D.: Neurogenesis in the nucleus vestibularis tangentialis of the chick embryo in the absence of the primary afferent fibers. Neuroscience. 2:253-70, 1977.

Morest, D. Kent, FINK, D. J.: Formation of synaptic endings by colossal fibers in the vestibular epithelium of the chick embryo. Neuroscience. 2:229-52, 1977.

Morest, D. Kent, DOMESICK, V. B.: Migration and differentiation of ganglion cells in the optictectum of the chick embryo. Neuroscience. 2:477-91.

Moxon, Edwin C. (See KIANG, N. Y. S.)

Mulroy, Michael J. (See NADOL, J. B., Jr.)

NADOL, Joseph B., Jr.: Electron microscopic observations in a case of longstanding profound sensorineural deafness. Trans. Am. Otological Soc. Inc., 110th Annual Meeting. 65:119-30, 1977, (also in: Ann. Otol. Rhinol. Laryngol. 86:507-17, July-Aug. 1977)

NADOL, Joseph B., Jr., Mulroy, M. J., Goodenough, D. A., Weiss, T. F.: Tight and gap junctions in a vertebrate inner ear. Am. J. Anat. 147:281-301, Nov. 1976.

NADOL, Joseph B., Jr.: Pseudocellulitis of the orbit. A case report of retinoblastoma masquerading as orbital cellulitis. Ann. Otol. Rhinol. Laryngol. 86:86-88, Jan.-Feb. 1977.

NADOL, Joseph B., Jr.: Positive Hennebert's sign in Meniere's disease. Arch. Otolaryngol. 103:524-30, Sep. 1977.

Ota, Carol Y. (See KIMURA, R. S.)

Parker, Stephen, DAVIS, K., Weber, A. L.: Acoustic neuroma diagnoses by computerized tomography, analysis and evaluation of findings. Adv. Otorhinolaryngology 24:21-31, 1977.

Peron, Didier. (See ANTOLI/CANDELA, F., Jr.) Plantenga, Jacob F. (See BROWNING, G. G.)

SCHUKNECHT, Harold F.; The risks and limitations of the course as providing competent training. Trans. Am. Acad. Ophthalmol. Otolaryngol. 82:ORL-640-ORL-641, Nov.-Dec., 1976.

SCHUKNECHT, Harold F.: Pathology of Meniere's disease as it relates to the sac and tack procedures. Ann. Otol. Rhinol. Laryngol. 86:677-82, Sep.-Oct. 1977.

SCHUKNECHT, Harold F.: Cholesteatoma recurrences in type IV tympanoplasty. Chapter in: Cholesteatoma: First International Conference/ Brian F. McCabe, Jacob Sadè and Maxwell Abramson. — Birmingham. Aesculapius, 1977, pp. 397-400.

SCHUKNECHT, Harold F.: Reconstruction for congenital aural atresia. Chapter in: *Hearing Loss in Children*/ edited by Burton F. Jaffe. — Baltimore. University Park Press. 1977, pp. 589-600.

SCHUKNECHT, Harold F., Hammerschlag, P. E.: Transcanal labyrinthectomy. Chapter in: *Neurological Surgery of the Earl* edited by Herbert Silverstein and Horace Norell. — Birmingham. Aesculapius. 1977, pp. 172-75.

SCHUKNECHT, Harold F.: Pathology of vestibular schwannoma (acoustic neuroma). Chapter in: *Ibid.* pp. 193-97.

Schuknecht, Harold F. (See GOTAY-RODRIGUEZ, V. M., KIMURA, R. S.)

STROME, Marshall: Rhino-sinusitis and mid facial pain in adolescents. Practioner. 217:914-18, Dec. 1976.

STROME, Marshall: Non-neoplastic salivary gland disease in children. Otolaryngol. Clin. North Am. 10:391-98, June 1977.

Strome, Marshall, JAFFE, B. F., Khaw, K. T., Schwachman, H.: Nasal polypectomy and sinus surgery for cystic fibrosis — a 10 year review. Otolaryngol. Clin. North Am. 10:81-90, Feb. 1977. STROME, Marshall: Sudden and fluctuating hearing losses. Chapter in: *Hearing Loss in Children/* edited by Burton J. Jaffe. — Baltimore. University Park Press. 1977, pp. 466-81.

Warr, W. Bruce. (See ADAMS, J. C.)

WEBSTER, Richard C., Davidson, T. M., Rubin, F. F., Smith, R. C.: Practical suggestions on facial plastic surgery — how I do it. Recording projection of nasal landmarks in rhinoplasty. Laryngoscope. 87:1207-11, July 1977.

WEBSTER, Richard C., Davidson, T. M., Smith, R. C.: Curved lateral osteotomy for airway projection in rhinoplasty. Arch. Otolaryngol. 103:454-58, Aug. 1977.

Weiss, Thomas F. (See NADOL, J. B., Jr.)

WILSON, William R.: Allergy and immunology. Chapter in: Essential Otolaryngology/ edited by K. J. Lee. — 2nd ed. — Flushing, New York, Medical Examination Publishing Company. 1977, pp. 421-31.

Department of Anesthesiology

McGOLDRICK, Kathryn E.: Reflections on freedom, responsibility and femininity. J. Am. Med. Wom. Assoc. 32:221-24, June 1977.

Department of Radiology

* Momose, Kiyokasu J., KRISHNAMOORTHY, K. S., Fernandes, R. A., DeLong, G. R., Moylan, F. M. B., Todres, D., Shannon, D. C.: Evaluation of neonatal intracranial hemorrhage by computerized tomography. Pediatrics. 59: 165-72, Feb. 1977.

Momose, Kiyokasu J., TADMOR, R., Davis, K. R., Weber, A. L., New, P. F. J.: Computed tomography of the skull and facial structures: preliminary evaluation of direct coronal sections. Comput. Tomography. 1, March 1977.

*First Author in Capitals.

MOMOSE, Kiyokasu J., Kjellberg, R., Kliman, B.: Quantitative analysis of the pituitary fossa and gland in Cushing's disease. Acta. Radiol. [Suppl.], 347:537-52, 1977.

MOMOSE, Kiyokasu J., Rosenbaum, A., Haimovici, H., Scott, W.: Radiological study of acute hypertensive cerebellar hemorrhage. Am. J. Roentg., 1977.

MOMOSE, Kiyokasu J., Weber, A. L., Goodman, M. L.: Esthesioneuroblastoma. Radiology Times., 1977.

MOMOSE, Kiyokasu J., Goodman, M., Weber, A. L.: Esthesioneuroblastoma: clinical, radiological and pathological findings. Chapter in: VII International Congress of Radiology in Otolaryngology. Karger, 1977.

MOMOSE, Kiyokasu J.: The place of computerized tomography in ophthalmology. Chapter in: Controversy in Ophthalmology/ edited by Robert J. Brochurst et al. — Philadelphia. Saunders. 1977, pp. 361-76.

Weber, Alfred L., HANN, L. E., Borden, S., IV.: Case reports: orbital teratoma in newborns, a case report. Pediatr. Radiol. 5:172-74, March 1977.

WEBER, Alfred L., Kushner, D. C.: X-ray of the month: parotid tumor. Ann. Otol. Rhinol. Laryngol. 86:262-63, March-April 1977.

WEBER, Alfred L., Gacek, R. R.: X-ray of the month: glomus tympanicum tumor. Ann. Otol. Rhinol. Laryngol. 86:400-01, May-June 1977.

WEBER, Alfred L., Solis O.: X-ray of the month: Chondromyxofibrosarcoma of the nasal cavity. Ann. Otol. Rhinol. Laryngol. 86:564-65, July-Aug. 1977.

Weber, Alfred L., DAVIS, K., Parker, S.: Acoustic neuroma diagnoses by computerized tomography, analysis and evaluation of findings. Adv. Otorhinolaryngol. 24:21-31, 1977.

WEBER, Alfred L., Grillo, H. C.: Tracheal tumors: radiological, clinical and pathological evaluation. Adv. Otorhinolaryngol. 24:175-81, 1977.

Weber, Alfred L., SPRINCE, N.: Reversible respiratory disease in beryllium registry. Am. Rev. Respir. Dis. 115:246, 1977.

WEBER, Alfred.: Radiographic evaluation of congenital malformations of the ear. Chapter in: Hearing Loss in Children/edited by Burton F. Jaffe. — Baltimore. University Park Press. 1977, pp. 182-212.

Weber, Alfred L. (See MOMOSE, K. J., Parker, S.)

Administration

Goldman, Margery. (See WOOD, C. T.) WOOD, Charles T.: A discussion of costing by clinical case mix. Proc. Assoc. Am. Med. College Conference of Teaching Hospitals General Session, November 12, 1976, San Francisco, California. WOOD, Charles T., Goldman, M.: Interrelated programs in split-cost accounting, pre-scheduling, and peer review. Proc. Hospital Management Sys-

tems Society Conference, St. Petersburg, Florida,

Social Service

February 1977.

SHIPSEY, Madeline.: Social and emotional factors in glaucoma care. Sight Sav. Rev. 47:115-20, Fall 1977.

Over 25 Years of Service

Miss Dorothy Campanella

Mrs. Antoinette Christie

Miss Emilie Farnsworth

Mrs. Jessie O. Jones

Miss Dorothy Landers, R.N.

Mrs. Rita Lovely

Mr. Raymond W. Lyons

Mr. Philip Maguire

Miss Anita Mangiaracine

Mr. Robert McLaughlin

Mr. Lloyd Ramsdell

Mrs. Hattie Roberts

Miss Madeline Shipsey

Mr. Charles J. Snyder

Ms. Ruth Straitiff

Miss Ann E. Stromberg

25 Years of Service

Mr. Roger N. Lane

Mr. Gerald E. Maloney

20 Years of Service

Ms. Barbara A. Healey

Nelson Y. S. Kiang, Ph.D Alexander S. Macmillan, Jr., M.D.1

15 Years of Service

Mrs. Barbara E. Corey, R.N.

Ms. Hilda Coyne

Mrs. Eleise Harper

Mrs. Gladys Johnson, L.P.N.

Mrs. Sylvia I. Scalley, C.R.N.A.

Mrs. Clara Sellon, R.N.

10 Years of Service

Ms. Daria Bartolucci

Miss Alma Burey

Mr. Earl Jackson

Thomas Keenan, M.D.

Mrs. Donna Montgomery

Ms. Rhoda K. Morrison

Ms. Carol Ota

Mrs. Gertrude Roberts

Mrs. H. Lorraine Sargent, R.N.

Mrs. Ruby Scarbrough

Mrs. Doreen Springer, L.P.N.

5 Years of Service

Mr. David Altman

Mrs. Evelyn P. Atkins

Mr. Josiah A. Atkinson

Mrs. Lorna Barnett

Mr. Michael Beckerman, C.R.N.A.

Miss Barbara J. Beckman

Mr. Lully Blaise

Mr. Michael Borges

Ms. Patricia Bratton, L.P.N.

Mr. Winfield Browne

Mr. Joseph N. Brun

Miss Antonetta Buccella, R.N.

Ms. Nancy Cole

Mr. Philip Coleman

Mrs. Irene Collins Mrs. June Corman

Mrs. Adeline Cotard

Mrs. Joyce D'Allesandro, L.P.N.

Mr. James D'Agostino

Mr. Arthur Doherty Mr. John Douglas

Mr. Erskine G. Eastmond

Ms. Patricia A. Egan

Mr. George Fetfatsidis

Mrs. Maria A. Forde

Mr. Markley W. Foster

Mrs. Vera C. Francis

Mrs. Christine J. Gomes

Mrs. Judith M. Grant

Ms. Gaelmarie Greene

Ms. Jennifer Hamlin Mrs. Marie H. Healev Mr. Robert E. Hill

Miss Lois Jardine, R.N.

Mrs. Camy Jean-Marie

Ms. Margaret Lawrence

Ms. Patricia Ledoux

Mr. Dexter C. Lewis

Ms. Dorothy Magliocco,

C.R.N.A.

Mr. Michael McHugh

Mrs. Monica McDavid

Mr. Emerson Moore

Miss Catherine Mullis, R.N.

Mrs. Dorothy Murkland

Joseph B. Nadol, M.D.

Mrs. Edith Nicholson

Mrs. Esther Nuestro, R.N.

Mr. James O'Connor

Miss Ana Perdomo

Mr. Rene Perez

Ms. Suzanne Persky

Ms. Linda K. Pine

Mr. Robert Reed

Mrs. Annette Roy

Mrs. Alice D. Sarno

Mr. Thomas Slowey

Ms. Pamela Smith

Mrs. Lillet I. Smith

Mr. Theophilus Squires

Mrs. Ruth P. Walton

Ms. Mervis E. Wells

Miss Jean S. Wong

Mr. Robert York

Mrs. Carolyn Zona, R.N.

¹ Deceased

Volunteers

Over 100 Hours

Miss Susan Adams

Miss Anne Aronson

Ms. Katherine Barry Mrs. Susanne Summers Clorite

Mrs. Mary Higgins Ms. Bettyann laffee

Mrs. Betty Loewenberg Ms. Stephanie Lombardo

Mrs. Arline Margulies Mrs. Helen McEvoy

Mrs. William W. Montgomery Ms. Mary Perez

Mrs. Alice M. Vesely Miss Linda Williams

Honor Roll

Mrs. Mark W. Adair

Mrs. Henry F. Allen Mrs. Charlotte Barnaby

Mrs. Merle Barry Mrs. Malcolm B. Carsley

Miss Leah Cook Mrs. Colin McA. Cunningham

Miss Winifred A. Cunningham Miss Jacqueline A. Daly Mrs. Barbara J. Dawson

Mrs. Geraldine DiLorenzo

Miss Ondine Frohberg Mrs. Rose F. Hurley

Mrs. Charles J. Innes Mrs. Edgar H. Kent Mrs. Calvin A. King

Mrs. Florence Knight Mrs. Robert F. Kurtz Mrs. John Lowell

Mrs. Henry Lyman, Jr. Mrs. Robert C. Meisel Mrs. I. D. Okamura

Mrs. Enid Phillips Miss Florence Reid

Mrs. Milton Rosenthal Mrs. Harold F. Schuknecht

Miss Ruth Shapiro Mrs. Taylor R. Smith

Mrs. Mildred Sullivan

Mrs. James I. Summers

Mrs. Kathryn Van Dernet

As a world-renowned specialty hospital, the Massachusetts Eye and Ear Infirmary believes it is important to take a leading role in health education. We are committed to informing our patients and the general community about the health of their eyes, ears, nose and throat. Publication of the following informational brochures is one part of that ongoing commitment. Prepared in close collaboration with members of our medical staff, these brochures answer some of our patients' most commonly-voiced questions about the medical conditions which can affect their sight, hearing, speech and vital respiratory functions. These

brochures also provide valuable information about what to expect during a stay at the Mass. Eye and Ear.

Because we have found these brochures to be of such help to our patients, we want to make them as widely available as possible. As a recently revised series, they are distributed not only through the inpatient and outpatient departments of this hospital, but in the private offices of our medical staff. Copies of these and other general information brochures can readily be obtained from the Public Affairs Department by using the attached postage-paid card.



	Information for the MEEL Patie	ent	
	Please send me the following free broc ment of the Massachusetts Eye and Ea		e Public Affairs Depart-
	 ☐ How to Use Eye Drops and ☐ Ointment ☐ Facts about Contact Lenses ☐ For the Patient with Glaucoma ☐ For the Patient with Cataracts ☐ Questions and Answers about Oto 	□ What Ear, NoSpecialists Do□ The Children'□ The Infirmary	s Unit is People
	Name		
It is your generous support of t Massachusetts Eye and Ear Inf mary that makes it possible for	Street		
to continue our commitment to excellence in patient care, re-	City	State	Zip
	Bequest and Estate Planning In	formation	
	The future treatment and cure of thos depends upon your long-range though chusetts Eye and Ear Infirmary in your needs in the fields of specialized medic come. I am pleased to inform you that I have included the Massachusetts Eye and Ear Infirmary in my estate plan.	te whose sight, hearing atfulness and planning. It will or estate plan, you cal care, research, and call care and the state plan information with my estate plan I understand the state plan in the state plan is	By including the Massa- u can help meet future
	Name	., ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	· · · · · · · · · · · · · · · · · · ·
	Street		
	City	State	Zip
	New England Eye Bank		
	Thousands of persons have benefitted of the New England Eye Bank, now in Massachusetts Eye and Ear Infirmary a information about becoming an eye de	n its 32nd year. The Ey and serves five New En	ve Bank is located in the gland states. For more
	☐ I am interested in receiving more information about the New England Eye Bank.	☐ Please send me application for	
	Name		
Alison B. Bass Russ Cevoli hotography: Michael Lutch	Address		
aphy: Alison B. Bass, Richard S. Friedman, Herzog, Antony Lloyd, Michael Lutch, and	City	State	Zip

sign: Alison B. Bass sign: Russ Cevoli ver Photography: Michael Lutch otography: Alison B. Bass, Richard S. Friedman, Brad Herzog, Antony Lloyd, Michael Lutch, and Colin Palmer

Massachusetts Eye and Ear Infirmary 243 Charles Street Boston, MA 02114





MASSACHUSETTS EYE & EAR INFIRMARY

Over the past one hundred and fifty-five years since its inception, the Massachusetts Eye and Ear Infirmary has evolved from a free clinic for indigent Bostonians, housed in a tiny medical dispensary, to a highly complex and ever expanding health care institution known worldwide for its excellence of patient care, teaching and research.

Today, the dreams of its visionary founders have been realized, although much great work is left to be done. The Infirmary is preeminent in Boston and throughout New England in providing emergency care and treatment, as evidenced by the increasing number of patients referred routinely from hospitals in the six state area.

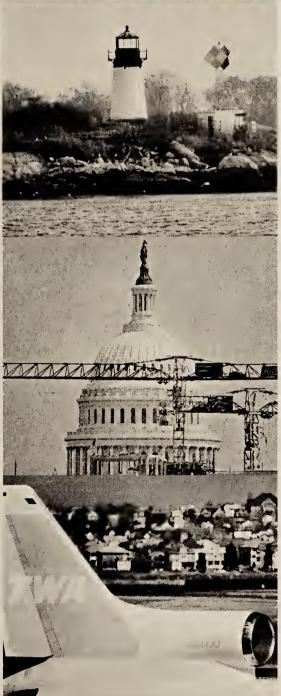
Nationally, the Infirmary is recognized for sophisticated surgical and therapeutic treatment in its specialized areas. And, as a teaching hospital for Harvard Medical School, the Infirmary has exhibited its academic excellence through the proficiency and accomplish-

ments of its many alumni.

Worldwide, the Infirmary continues to contribute significantly to the advancement of eye, ear, nose and throat research. Its administrators and medical staff are recognized as leaders and innovators in their respective fields and are called upon by hospitals and private institutions in foreign countries to share their knowledge and expertise.

At the same time, however, the Infirmary has historically sought to prudently manage its growth and development, consistent with the ideals and standards set forth by its founders, affirming its basic commitment to the community it serves, while maintaining its international reputation for excellence.





CONTENTS

- 2 Report of the Chairman and President
- 4 Report of the Director
- 6 Report of the Chief of Ophthalmology
- **8** Report of the Chief of Otolaryngology
- 10 Infirmary Profile 1978
- **14** Comparative Statistics
- 15 Financial Statement
- 20 Medical Staff
- 25 Publications
- **30** Service Award Recipients





Melville Chapin, Chairman Robert C. Jordan, President

This past year has seen a number of positive developments at the Infirmary. Expanded research, the continued high standard of patient care, building progress, cost accounting and medical audit measures have combined to not only maintain the excellent reputation of the Infirmary, but signal a very encouraging future

During the year, the professional staff and the philosophy of appointments were a major topic of discussion and it was agreed to re-evaluate the current process of appointment to the medical staff. The Board also authorized the Director to enter into an affiliation agreement for the Ophthalmic Residency Program with Peter Bent Brigham Hospital.

The Standing Committees were reappointed and the Building Subcommittee was established to concern itself with the successful working relationship of the Infirmary and the architectural firm and construction company.

Under the Chairmanship of August Meyer, the Bylaws Committee was appointed and addressed itself to specific needs to change in the Corporate Bylaws. Members of the Corporation were asked to submit their recommendations to the Committee.

Recommendations from the Subcommittee on Human Subjects concerning revisions of the "Guiding Principle and Procedures for the Massachusetts Eye, and Ear Infirmary" as suggested by the National Institute of Health were accepted at the July 27th meeting.

The Board also authorized the Director to engage an architect to finish construction documents for the Animal Holding area.

With regard to parking, the need for expanded facilities was reviewed. We have pursued alternative locations for parking facilities and a meeting with the Commissioner of the MDC was scheduled. The matter was turned over to the MDC engineers and will be reevaluated on a continuing basis until an equitable solution is found.

A Policy Review Committee was appointed by the Board of Managers and has targeted three major concerns for review:

A. To review the organization of the medical staff which will include the study of qualification required for staff membership and the categories and responsibilities of membership. There is a subcommittee working on this important area and it is headed by Dr. George Garcia for the Eye and Dr. Robert Lofgren for ENT.

B. The delivery of ambulatory care at the Infirmary having to do with the improvement of the organization and staffing of critical services and the review of financial structures from which this care is provided. Messrs. Kelly and Reis are working with Dr. Charles Regan in developing and examining several models for ambulatory care based on considerations of group practice, fee for service and hospital based salary procedures.

c. The third important area is the study of the Infirmary's committee structure of the medical staff. The Chief of Ophthalmology, Dr. Dohlman, and the Chief of Otolaryngology, Dr. Schuknecht, are working with our Director Mr. Wood to determine the need for any modifications in this area.

An evaluation of the budget was begun last May and involved Mr. Summers, Mrs. Yancey, Mr. Jordan, the

medical staff and administration. All requests for funds and personnel received close scrutiny with each department justifying their budget reques by statistical measurements. A detailed examination was made for all requests for capital expenditures and the full Board of Managers approved the Budget Committee's recommendation for an operating budget with a 7.92% price increase.

In this connection, it should be pointed out that there is a strong need to concentrate on raising special funds to support the necessary capital expenditures which have to be handled outside of the normal hospital charge structure and work is being done in this connection.

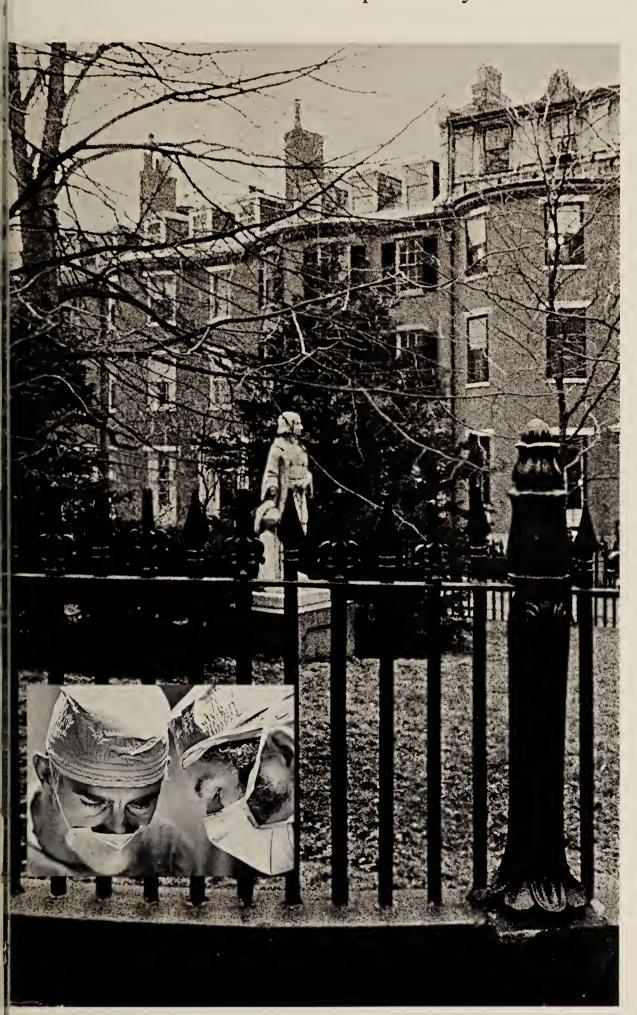
Due to cost containment, we have continued to deliver high quality care with a minimum increase in our charges, below the guidelines established by State and Federal bodies.

In the area of medical care evaluation, the Managers of the Infirmary are ultimately responsible for the quality of medical care delivered at the Infirmary and the competency of the physicians who are members of the staff. Certain authority has been delegated to the medical staff since it is obviously essential that they assist the Governing Body in discharging this responsibility.

The first component of peer review is a concurrent utilization review which establishes the medical necessity to admit a patient. This involves a daily review during the patient's stay to decide whether it is necessary for the patient to be in the hospital beyond the standard length of stay for the procedure performed.

The second component of peer review involves a retroactive review of medical records to ensure that the quality of care rendered to the patient was at the highest professional standards and at the lowest possible cost. This review is accomplished through special studies with the medical staff performing at least ten such studies a year with reports of their findings made to the Executive Committee of the Board of Managers. During 1978 ten such special medical evaluation

The Infirmary's basic responsibility is to provide the very best in patient care and emergency treatment to the community it serves. It is the firm belief of the administration and staff, however, that active involvement in community affairs as both a resource and educational center remains a vital responsibility.



studies were reviewed, and seven follow-up studies were reported.

The peer review program is administered by the medical staff all of whom participate on a rotating basis with equal responsibility. The reports that have been reviewed this year demonstrate quality care with the cost effectiveness to the public.

In line with this evaluation of medical care and professional standards, in the past year we witnessed a presentation on Otology research. We believe there is a strong interest on the part of the medical staff as to current developments and we intend to include such reports and reviews on the agendas for future full Board meetings.

Finally, we have successfully restructured the debt of the hospital through the negotiation of a long term loan from a group of Boston institutional lenders enabling the short term loan which we had with the Merchants Bank to be repaid. This has freed up a good sum of unrestricted income to give leeway in purchasing needed medical equipment and also to make it possible for us to give serious consideration to the acquisition of additional land or facilities for meeting our over-taxed parking needs

In closing, we would be remiss in not thanking our administrative and medical staff for their contributions to the continued growth and development of the Infirmary.

Melville Chapin, Chairman

Robert C. Jordan, President



Charles T Wood, Director

Annually, we concern ourselves primarily with the accomplishments of the Infirmary in the year past and focus on and interpret the raw data available to us, be it budgetary changes, occupancy levels, building plans or new appointments.

And, certainly, the detailing of this information serves a very real purpose. I would like to break with tradition this year, however, and address this Director's Report to an aspect of the Infirmary's development that effects both our uniqueness and our progress far more accurately than do statistics or plans. Specifically, our patients – and the reasons for their coming, whether it be from Boston Garden for treatment of an eye injury or Santo Domingo for major eye surgery or the southern coast for a stapedectomy.

In the past fiscal year 37,109 emergency patients were treated in the Infirmary's Emergency Ward. Another 4,074 underwent minor surgery using the same facility. Many of these patients came from every corner of the globe.

Early this fall, a professional hockey star suffered an eye injury while playing at Boston Garden. After a cursory examination, the team's trainer had the injured party sent to the E.W. at Mass. Eye and Ear. Our reputation for expert diagnosis and care, and our practice of having ophthalmology and otolaryngology residents on 24 hour call were the critical factor in the trainer's decision.

Recently, an international figure from

a Caribbean island was examined here and admitted for major eye surgery. He was referred by his own Central American doctors to be treated at the Infirmary.

A woman retired in Florida, was referred here for a stapedectomy. Her doctor's decision: send her to the best.

Apart from the depth and excellence of care the Infirmary provides our patients, our reputation has been enhanced by the cost containment measures instituted to minimize inflationary increases that are evidenced in many other institution's rate schedules. Budgetary increases at MEEI over the past year reflected a 7.9% increase as compared to Federal government estimates of 12-14% for the same period. Actually, we would have needed only a 4.5% increase. However, because of loss suffered through our Medicaid reimbursement, the additional 3.4% had to be included. The Energy Conservation Program, chaired by Mr. William Mercer, a member of our corporation, was instrumental in reducing energy usage by 16% this past year.

A new data processing system, undertaken this spring, makes use of improved equipment to establish new systems and thus be more responsive to our needs. This system will provide additional data and information previously unavailable, which will make the management of the Infirmary more efficient and at a lower cost.

Our research efforts in all aspects of ophthalmology and otolaryngology are second to none in the world. The search for the causes and cure of glaucoma and the progress made this past year give us all something to be proud of. New techniques in the diagnosis and treatment of ear disorders have enabled us to receive government grants and other financing to further this work.

In the area of peer review the Infirmary's medical staff continued its outstanding work. For many years now the program has enjoyed full approval of the Joint Commission on Accreditation, the State Public Health Department, Medicare and other third party payers. We also enjoy delegated status from the PSRO, the federally mandated and supervised peer review program.



Another first was a workshop sponsored by our Social Service Department in conjunction with the Massachusetts Office of Deafness to educate and investigate Usher's Syndrome, a tragic disorder of both hearing and sight.

These are just a few of the innovative methods and activities being generated at this institution.

Even the disastrous storm last February served to underline the dedication and spirit of the staff and reaffirm the Infirmary's reputation for excellence under the most difficult conditions. And, despite the ensuing paralysis that followed, we still managed to maintain our overall care and census.

This past year has witnessed the Infirmary's continuing commitment to both organize and participate in community programs. The department of

As the major medical facility in its specialties for the New England area, the Infirmary has become a forum for developing and sharing medical knowledge and research advances. Representative of the leadership role the Infirmary plays were this past year's Usher's Syndrome Conference and the New England Intraocular Microsurgical Workshop.



Public Affairs, members of the Medical Staff, the administration and numerous other hospital staff have been involved in various projects such as Winterfest, Healthfest and the Charles Street Fair to underline the Infirmary's involvement and leadership with our fellow citizens.

Administratively, a number of changes were made to restructure and streamline our operation. Mr. Jeffrey Kelly began his duties as administrator, handling the daily operation of the hospital. Public Relations and Development were combined to better interweave those functions and produce greater results. Finance and Planning were reorganized, all with an eye toward the future needs of this ever-changing, ever-growing facility.

The support of our medical staff was, as always, exemplary and the increas-

ing upgrading of these talented people continues. We should also be proud of the role our teaching staff plays in providing the finest surgeons and technicians to this country's and world's medical needs. The completion of the wonderfully equipped Meltzer Auditorium will enhance the teaching capabilities even more.

Our cost accounting system, which is now being widely recognized, has enabled us to more fairly distribute the cost of our health care and serves to discourage any incentives for longer lengths of stay.

What we have here, proudly, is one of the finest tertiary care establishments not only locally and regionally, but in the world.

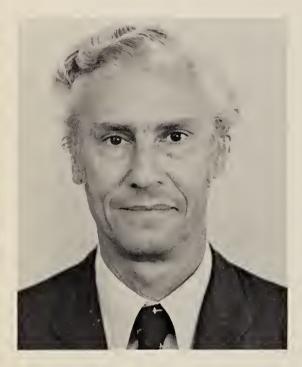
This then, is our quest. We will strive to inform and where necessary, con-

vince, the regulatory and legislative health commissions of our role, and of what we are striving to do here.

So that is why people come to Mass. Eye and Ear Infirmary. People from a Boston Garden hockey game or the Island of Santo Domingo or the southern coast of the United States. We are widely known. We want to be more widely known. We want to extend our care and expand our reputation as teacher and healer. We earnestly ask for your continued support.

Charles Wood

Charles T. Wood, Director



Claus H. Dohlman, M.D.

The Eye Service at the Massachusetts Eye and Ear Infirmary has enjoyed and deserved a reputation of excellence for many decades. It is well not to be complacent, however, as other eye departments throughout the country have increased their capabilities in recent years. Our new building, however, has created a renewal of enthusiasm, vigor and excitement, and we have expanded and progressed at an encouraging pace. A statistical comparison over the last five years should demonstrate the growth that has taken place in the Service in all areas. The staff has increased in number from 81 to 111. 6,408 eye operations were performed in 1973 and 7,474 in 1978. Research funding has tripled to over two million dollars in the past year. Expansion of the clinics, operating rooms and laboratories into the new building has gone on steadily since 1973 and we have continued to plan for further construction and elevation of the level of patient care, teaching and research.

TEACHING

There are three structured on-going teaching programs in operation within the Service: the Undergraduate Program, which is well organized and enjoys a fine reputation amongst the Harvard medical students; the Fellow-

ship Program, which presently boasts 37 fellows in the various subspecialties of the field; and the Residency Training Program. A new revised residency program has now been in effect for one year and, although there have been inevitable minor teething problems, overall the program works very well and the Infirmary rates among the most highly sought ophthalmology residency programs in the country. This year, a new method of residency selection has been initiated so that the Infirmary will now participate in a nationally organized "matching program". Dr. Wing Chu has been recruited as the Assistant Director of the Residency Training Program to help with the Home Study Course

In addition to these three training programs, a series of post-graduate courses is sponsored and conducted annually by the Service. These courses attract ophthalmologists from all over the world and include two Basic Science Courses, (at Harvard, and the Lancaster Course in Maine), as well as post-graduate courses in Glaucoma, Cornea and External Disease, Neuro-Ophthalmology and, recently, the Ocutome Workshop.

A highly successful series of research seminars have been reinstated to be held during the academic year, known as the Greater Boston Eye Research Seminars. Each Seminar focuses on a theme relevant to current research in ophthalmology and attempts to interest both basic researchers and clinicians.

The daily Morning Conference schedule has been revised so that all the major subspecialties are represented by a regular conference. The conferences, oriented towards not only the visiting staff, but also to the fellows and students, are recognized by the AMA as worthy of category 1 credit for CME Physicians Recognition Award.

In addition, there have been a large number of scientific meetings at the Infirmary during the year and memorable visits by many distinguished physicians and researchers. Most conferences and formal teaching sessions are conducted in the Sloane Teaching Room which, although somewhat limited, provides a satisfactory setting for academic interchange. However, the need for a larger teaching room is acutely felt and we eagerly anticipate the dedication of the new auditorium in the near future.

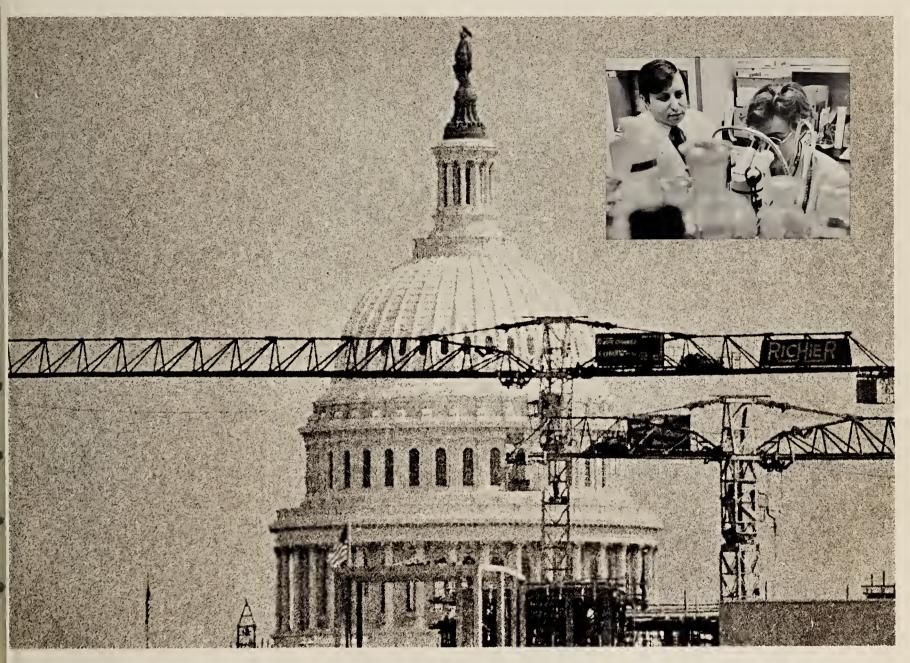
RESEARCH

The Howe Laboratory of Ophthalmology, through a wide variety of projects and disciplines, continues in its aim to bring the basic sciences to bear on ophthalmic disease. Major studies presently underway include: in cataract research: lens biochemistry, crystalline lens metabolism and cataract formation; in glaucoma: studies of the anterior segment circulation, aqueous outflow, iris morphology, and the trabecular meshwork; in neuro-ophthalmology: screening techniques for the early detection of Multiple Sclerosis, and neuro-anatomy of eye motion; in pathology: the study of pigmented ocular tumors; in electro-physiology: the application of signal detection theory and practice to ophthalmology; and in the development and use of ophthalmic instruments. Exciting progress in many of these areas has been made during the year. Confidence in these projects and in the researchers involved is expressed by the generous support awarded this year to the Laboratory by the National Eye Institute. In addition, many of these projects are made possible by the faithful support of the Massachusetts Lions and many other individual and group contributors to whom we are all extremely grateful. A new addition to the research staff in the Howe Laboratory this year is Dr. Johan Zwann, who brings a unique expertise combining embryology and anatomy with ophthalmology.

The Berman-Gund Laboratory for the Study of Retinal Degenerations continues to make progress with a multidisciplined research effort that includes electro-physiological, biochemical, electron microscopic and tissue culture studies; in recognition of this work the laboratory now receives substantial Government funds.

However, space for laboratory research is presently less than at several other important institutions in the United States and plans for the future

The Infirmary's 37-year affiliation with Harvard Medical School as a teaching hospital has produced thousands of distinguished specialists who serve nationwide – and whose training and service here have contributed greatly to the excellence of patient care, treatment and research the Infirmary has long been noted for.



expansion of our research programs continue, with the major focus now on fund-raising to realize the establishment of new units for research at the Infirmary.

The proximity of clinical activity to laboratory research allows many of our patients to reap immediate benefit from any new development in methods of treatment. The subspecialty services, in retina, cornea and external disease, neuro-ophthalmology, glaucoma, plastic and reconstructive clinical activity with international recognition. All of these clinics conduct clinical research projects with the agreement and cooperation of selected patient groups and, as a result, many important advances have been made.

OUTLOOK

Each year a large number of ophthalmologists from home and abroad visit the Eye Service and this in itself is a reflection of the Infirmary in every corner of the globe. As they tour the building, visitors are always impressed by our superb facilities. It is not the concrete and steel, however, that draws them here, but rather the reputation of the many groups and individuals on our staff who are leaders in their field, innovators, and standard setters in the ophthalmological world. We do have a superb staff, and their effect is felt not only through publication and lecture, but by their deep commitment to the continued excellence of patient care and teaching in the day-to-day

ophthalmology that is practiced at the Infirmary.

My hope for the future is that we can continue to build on this foundation, to expand our facilities for clinical activity and research, and to recruit the leaders of tomorrow's world to ensure that, in the future as in the past, our patients will receive the best possible medical care.

Claus H. Dohlman, M.D.



Harold F. Schuknecht, M.D.

Our new hospital facilities, both outpatient and in-patient, are superb. There are none better anywhere and favorable comments from patients regarding the quality of the facilities and medical care are frequent. Similarly, employees are enjoying the improved working conditions. Computer technology has increased the efficiency of the administrative department and we have met our responsibilities with regard to federal and local agencies which exert ever increasing controls over hospitals and physicians. The unique method for cost accounting hospital charges, devised by our Director, Mr. Charles T. Wood, has gained worldwide attention. In essence, the plan provides a more equitable distribution of hospital costs through a system of charging for the amount of service given to each individual patient.

TEACHING

The teaching of otolaryngology to medical students continues to be an important function of the staff of the Massachusetts Eye and Ear Infirmary. This program is administered by Dr. William Wilson and implemented by selected lectures on the anatomy of the head and neck structures for the first year students, a three-hour course in pathophysiology of the nose, throat and ear for the second year students,

coordinated by Dr. Joseph Nadol, an elective general course in clinical otolaryngology which is taken by most of the Harvard Medical School students, one-month intensive elective course available to 24 students annually who have selected otolaryngology as a field of special study and one-month elective courses in research in some aspect of anatomy, physiology or pathology of the nose, ear or throat.

The residency rotations remain the same as in recent past, except for a new rotation to the combined services of Peter Bent Brigham and Beth Israel Hospitals, under the supervision of Dr. Marshall Strome, who has been appointed Chief of Otolaryngology at both of these institutions. The only other rotation outside the Massachusetts Eye and Ear Infirmary is to Children's Hospital where Dr. Gerald Healy serves as the newly appointed Chief of Otolaryngology. Dr. William Montgomery acts as administrator of the residency training program at the Massachusetts Eye and Ear Infirmary.

Each year we have the privilege of selecting our residents from a pool of outstanding candidates. The prerequisite for the otolaryngology residency is two years of training in general surgery, thus the senior residents are in their fifth year of post graduate training. The first year of training emphasizes attainment of examining and diagnostic skills, the second is devoted to the attainment of surgical skills, use of special test devices and judgment in therapy, and the third and final year emphasizes responsibility for the complete management of the patient, including surgery. Special features of the residency training program are the head and neck anatomy dissection course, the temporal bone dissection course, the videotape teaching collection and the two-month elective rotation for the senior residents. During this rotation they may elect some special field of clinical study, such as radiology, plastic surgery or allergy or engage in a clinical or research project. Each vear four visiting professors are invited to the Massachusetts Eye and Ear Infirmary, each for one day of intensive

lecturing and consulting on clinical problems.

This year's postgraduate course, sponsored by the Department of Continuing Education of Harvard Medical School was entitled "Office and Emergency ENT, Diagnosis and Treatment for the Primary Care Physician" and was supervised jointly by Dr. Joseph Nadol and William Wilson.

RESEARCH

Research, both basic and clinical, continues to represent a considerable effort of the staff. Funding from both federal and private sources is adequate to insure support of these projects. Dr. Nelson Kiang and his associates in the Eaton Peabody Laboratory of Auditory Physiology continue their pursuit of the mechanisms of stimulus coding in the auditory system and good progress is being made. The close collaboration of scientists from Massachusetts Institute of Technology, Massachusetts General Hospital, Harvard Medical School and the Massachusetts Eye and Ear Infirmary accounts for much of the success of this research group. Dr. William Montgomery continues to make innovations in the management of disorders of the upper airway and food passages. Dr. William Wilson is studying the causes of sudden deafness, Dr. Joseph Nadol, the ultrastructural pathology of deafness, and Dr. Robert Kimura, the patterns of innervation of the inner ear. The new laboratory of Rhinolaryngology and Histopathology, funded by a construction grant from the Glen Meade Foundation is nearing completion. This laboratory will occupy 2,570 net square feet of space and include a laboratory of engineering science. During the past seven years seven residents have been involved in research projects and five have authored publications.

Currently we have four otologic research fellows. Dr. Rudolf Hausler of Geneva, Switzerland is working in the Eaton Peabody Laboratory on the effect of ear disease on sound localization. Dr. Ana Mendoza of Monteivedo, Uruguay, in association with Dr. Nadol, is studying auditory evoked responses in neonates. Dr. Naoko Shinozaki of

Research efforts have consistently produced medical advances which are responsible, in part, for the Infirmary's position worldwide. Speaking engagements and participation in conferences and seminars by administration and medical staff in such diverse locales as Australia, the Soviet Union and South Africa underline the Infirmary's international reputation.



Fukuoka, Japan is engaged in discoveries on the morphology of the inner ear by the use of scanning electron microscopy in collaboration with Dr. Kimura. Dr. Ernst Richter of Innsbruck, Austria is studying the pathological changes in the vestibular system of the aging ear.

CLINICAL SERVICES AND STAFF

The out-patient and in-patient services continue to be effectively staffed by a combination of part-time and full-time staff. The Chiefs of Service who supervise these services on 2-month rotations are Dr. Robert Klotz, Dr. Robert Lofgren, Dr. William Montgomery, Dr. Alfred Hurst, Dr. William Hayden and Dr. Thomas Klein. Dr. Richard Fabian has been appointed Chief of the plastic service. During the past year

20,604 patients were seen in the OPD and 779 surgical procedures were performed on private patients. The census of the Emergency Ward was 15,677, Audiology performed 9,483 tests and 434 ENG's were done.

During the past year Dr. William Montgomery has served as president of the New England Otolaryngological Society and Dr. Daniel Miller as president of the Triological Society.

TRENDS

As we grow into the additional space provided by the new hospital building, we have the opportunity of expanding our health care services as well as our research programs. The resources for such expansion consist of patients and physicians on the one hand and of scientists and research funds on the

other. The growth of the department of otolaryngology must be carefully planned to take full advantage of these resources. In spite of the increasing competition for federal research grant monies, we have thus far had no difficulty funding the research programs.

The census for the out-patient service appears to be stable and the emergency service and in-patient services are in increasing demand. We are in a better position than ever before to deliver high quality medical care, to teach it to medical students and residents, and simultaneously, through research, expand the frontiers of knowledge.

Hairlo & Schuleneolix

Harold F. Schuknecht, M.D.

Clockwise from left: Ten-foot stiltwalker entertains crowds at Healthfest '78, Puppeteer at Healthfest '78, Newscaster John Henning at Winterfest Dinner and Auction, CPR training sessions held bi-annually for employees, LVC "Christmas in November" benefit, Charles Street Fair.



It is a conviction of purpose that unites our staff. For each individual employee, physician and researcher knows the importance of his/her role in maintaining and improving upon the high level of patient care already available at Mass. Eye and Ear. Be it through day to day duties or in response to an emergency. Witness the Blizzard of '78, when many nurses worked double shifts for four days straight... when one day all power was temporarily out, but available employees from all departments lent Dietary a hand to provide patient





meals . . . when physicians helped to make patients' beds.

It is a similar group effort that has made our Energy Conservation Program an ongoing success. That program and the Professional Services Review exemplify the involvement of employees and staff members in the challenging effort to uphold quality medical care while containing costs.

Another integral responsibility of a hospital such as ours is to maintain open communication channels with the public at large. Through the publication









Assistant Chief of Ophthalmology Dr. Richard A. Thoft (pictured at right) outside the Pilatov Institute, while attending the International Keratoplasty and Keratoprosthesis Congress in Odessa, Russia.

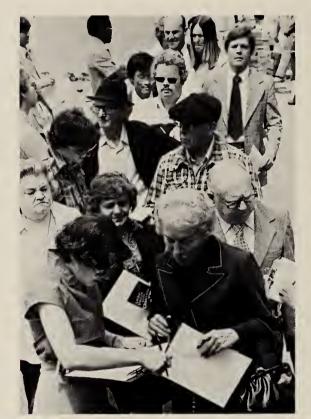
of patient care brochures and informative newsletters, injury prevention as well as updates on research progress can be relayed to the community. Local and national media have been quick to tap our resources: the expertise of staff members and innovative Infirmary programs have been highlighted in newspaper stories, on radio stations such as WROR-FM and WEEI-AM's "Medical Journal", and on such television programs as "Housecall", "Good Day", "Woman '78" and "Evening Magazine".

As part of National Hospital Week at

MEEI in May, 1978, Mass. Eye and Ear and WNAC-TV co-sponsored a free glaucoma screening on City Hall Plaza. Early detection is considered to be the key to controlling glaucoma, one of the leading causes of blindness in the United States. Physicians and MEEI employees worked tirelessly that day while people waited patiently for their turn to be screened.

Healthfest, co-sponsored with the Beacon Hill Civic Association, provided local residents a unique opportunity to "help themselves" to free eye, ear,

Clockwise from left: Glaucoma Screening on City Hall Plaza, Dr. Jim Wasco of "Evening Magazine" at MEEI, A patient expresses thanks, Red Sox player Dwight Evans' wife Susan plays with son Timmy in MEEI Pediatrics, Director Charles T. Wood congratulates Service Awardee, Usher's Syndrome Conference, and Glaucoma Screening.







nose and throat exams. More than 150 Infirmary physicians, nurses, audiologists, social workers and other employees volunteered their time. Last fall at the Charles Street Fair, Mass. Eye and Ear volunteers staffed a booth and distributed information materials.

As a Harvard Medical School teaching facility and the foremost center in the area for eye, ear, nose and throat care, Mass. Eye and Ear has also contributed to the advancement of medical care by hosting seminars and conferences such as the Usher's Syndrome Workshop and the New England Intraocular Microsurgical Workshop.





The impact of work at the Infirmary is felt locally, regionally, nationally, and even worldwide – but when it comes down to basics, it is the individual patients being cared for at this moment who matter most. Providing quality care is hard work, but when a patient responds successfully to treatment, all seems to make sense.





Hanging in the ninth floor waiting area is a painting by Lillian Kennedy entitled "Celebrating the Joys of Vision", painted for the Infirmary when she regained sight after successful retinal surgery. And there is three-year-old Brian Welsh from Nashua, New Hampshire, whose father has a tee-shirt printed for him with words that convey the gratitude of many – "Thanks MEEI"



While lecturing in Pretoria, South Africa, for a week this past year, Dr. William Montgomery (pictured at left) had the opportunity to visit Kruger National Park with Dr. Claus Walter of Dusseldorf, Germany.



After serving as keynote speaker at the Australian Hospital Association Annual Congress last September, Infirmary Director Charles T. Wood (pictured at right) in Canberra, was asked by his hosts to confer with hospital administrators throughout the country.

Fiscal 1977 - 1978		1978	1977
Inpatient Hospital (174 Beds)	Admissions: Eye Patients ENT Patients	7,333 4,003	7,266 4,007
	Total Admissions	11,336	11,273
	Operations: By Eye House Staff By Eye Attending Staff	1,211 6,263	1,111 6,305
	Total Eye Operations By ENT House Staff By ENT Attending Staff	7,474 1,103 2,702	7,416 1,123 2,578
	Total ENT Operations Total Operations	3,805 11,279	3,701 11,117
	Discharges: Death Autopsies	11,355 21 29%	11,295 16 44%
	Patient Days Average Patient Census Average Length of Stay Bed Utilization	55,658 152 4.90 88%	55,606 152 4.92 88%
Outpatient Department	Eye Clinic Total Eye Visits ENT Clinic	53,611	54,662
	Total ENT Visits Total OPD Visits	20,003 73,614	18,746 73,408
Emergency Ward	Eye Cases ENT Cases	20,866 16,243	21,063 17,561
	Total	37,109	38,624
Ambulatory Surgery	Eye Cases ENT Cases	2,323 1,730	2,186 1,508
	Total	4,053	3,694
Special Services	Audiology Electroretinography (tests) Fluorescein (tests) Low Vision	9,164 1,020 2,404 126	9,070 900 2,331 151
	Neuro-ophthalmology Otoneurology (tests) Ultrasonography (tests) Visual Function Studies	914 434 296 - 0 -	952 466 265 - 0 -
	Radiology (exams)	29,833	30,588
	Laboratories: Eye Pathology (specimens) ENT Pathology (specimens) Clinical Laboratory (procedures) Bacteriology (cultures)	3,418 10,957 96,052 14,375	2,184 11,355 93,082 16,116

FINANCIAL STATEMENT Massachusetts Eye and Ear Infirmary

Operating Funds September 3	30, 1978				
Balance Sheet					
Current Assets Cash	\$ 5,629,443 (636,518)	\$ 391,083 \$ 4,992,925 1,047,652 185,197 89,251 46,156 815,438 534,881	Current Liabilities Current installments of long-term debt Accounts Payable Accrued expenses Due to other funds Total Current Liabilities Long-Term Debt, less current installment Equity in Undistributed Security Pool Fund Balances General operating fund	\$ 2,642,066	\$ 688,600 2,341,183 281,705 ————————————————————————————————————
Less accumulated	\$42,469,081 \$ 8,956,462	\$ 8,102,583 \$33,512,619 \$41,615,202	Depreciation Fund — Unrestricted Plant Fund Total Operating Funds	2,728,644 17,554,972	\$22,925,682 \$41,615,202
September 30, 1978					
Statement of Revenue and Exp	penses				
Patient Service Revenue Adjustment to Patient Revenue for free care and contractual allow Net Revenue Service to Pati Other Operating Revenue (includes Research and other Specific Fortal Operating Revenue Operating Expenses:	wances ients ding \$5,219,33	72 from		-	\$22,580,207 1,222,963 \$21,357,244 \$ 6,487,582 \$27,844,826
Patient Service (including dep Research and other Specific F Hospital Net Income from O		\$22,578,164 5,219,372	\$27,797,536 \$ 47,290		
1 103pital Net IIICOITIE IIOIII O	perations				Ψ +1,230

Income from Investments Gifts and Bequests Donated Income – Various Estates			\$ 662,085 1,368,549 362,198
			\$ 2,392,832
Endowment Funds September 30, 1978			
Balance Sheet			
Specific Purpose Funds Cash Investments at Cost (Quoted market value \$1,601,710) Due from other Funds	\$ 3,335,784 1,559,534	Equity in undistributed security pool gains Fund Balances Special Purpose	\$ (30,386) 2,299,534
Receivable from Grantor agencies	176,169 \$ 5,071,487	Temporary Unexpended restricted income Due to other funds	1,343,003 548,335 911,001 \$ 5,071,487
General Funds Cash	\$ 29,688	Equity in undistributed security pool gains Fund balances	\$ 4,686,491
Investments, at cost (quoted market value \$15,445,331)	14,716,138 \$14,745,826	Income restricted Income unrestricted	1,780,388 8,278,947 \$14,745,826
September 30, 1978			
Building Fund Cash Construction in Progress Due from other funds	\$ 520,180 3,578,597 95,563 \$ 4,194,340	Accounts payable Fund balance	\$ 135,394 4,058,946 \$ 4,194,340

Board of Managers Melville Chapin, Chairman

Robert C. Jordan, President phron Catlin, Jr., ice-President Villiam H. Claflin, III, reasurer 1rs. John Lowell, Secretary ohn O'Sullivan Francis* vram J. Goldberg eorge M. Lovejoy, Jr. ugust R. Meyer Juncan Neuhauser, Ph.D.* lenry K. Porter ames I. Summers

xecutive Committee

lobert C. Jordan, Chairman harles T. Wood, Secretary phron Catlin, Jr. delville Chapin Villiam H. Claflin, III laes H. Dohlman, M.D. loy A. Johnson, M.D.
President Medical Staff) George M. Lovejoy, Jr. 1rs. John Lowell 1rs. William W. Montgomery larold F. Schuknecht, M.D. orter H. Smith, M.D.

Appointed by the Commonwealth

Members of the Corporation

925 Hon. Leverett Saltonstall honorary

934 Hon. Robert F. Bradford 940 Mrs. Richard Cary Curtis

945 Mrs. Sullivan A. Sargent 947 William H. Claflin, III 948 August R. Meyer

948 Miss Amelia Peabody - honorary

951 Hon. Francis W. Hatch, Jr.

951 Hon. Francis W. Hatch, Jr. 951 Melville Chapin 951 Henry K. Porter 952 George A. McLaughlin, Sr. 953 Mrs. Varaztad H. Kazanjian 955 Richard P. Chapman 955 William Ehrlich

955 Weston Howland, Jr. 957 Hon. William L. Saltonstall

963 Thomas B. Frost 963 John S. Howe

963 Frederick H. Lovejoy

– honorary 965 George M. Lovejoy, Jr.

1965 Mrs. John Lowell 1965 Frederick C. Rozelle, Jr. 1966 Francis S. Hill

966 Robert Bacon 966 James I. Summers

1966 966 Leo F. Daley, Sr. 1967 Paul A. Chandler, M.D.

– honorary 1967 Edwin B. Dunphy, M.D.

honorary

1967 Mrs. Bartlett Harwood

1967 John M. Lord

1967 Leroy A. Schall, M.D. 1967 William F. Spang 1967 Monte J. Wallace 1968 Colin McA. Cunningham

1968 W. Clement Stone

- honorary
1969 Richard W. Young, Ph.D.
1970 Ephron Catlin, Jr.
1970 Mrs. Frederick S. Moseley, III
1970 Mrs. Frederick R.H. Witherby

Avram J. Goldberg Robert C. Jordan Mrs. Robert C. Meisel Robert D. Williams 1971 1971 1971

1971

1972 1972 Matthew J. Burns Leo H. Daley Mrs. William P. Ellison 1972

1972 Richard Harte 1973 Dominic P. DiMaggio 1973 J. Frank Gerrity

1973 Robert T.P. Storer, Jr. 1973 Frederick G.P. Thorne

1974 Bruce A. Beal 1974 William C. Mercer 1975 Bernard R. Baldwin 1975 Edward Repolds, Jr.

1975 William Salátich

1976 Walter A. Rosenblith, Ing. Rad.

1976 Gustave M. Solomons

1976 Mrs. Sally Stone 1976 Frederick Winthrop, Jr.

1977 Mrs. Lillian Fishburne 1977 Herbert W. Gray

1977 Ms. Regina Herzlinger

1977 Stanley G. Russell, Jr. 1977 Sandra Carnegie Steele 1977 Mrs. Alice W. Yancey

Joint Medical Staff Executive

George E. Garcia, M.D., Chairman A. Robert Bellows, M.D. Melville Chapin Claes H. Dohlman, M.D. Allan G. Edwards, M.D.
Roy A. Johnson, M.D.
Robert C. Jordan
Joseph C. Kim, M.D.
Joseph A. Moretti, M.D.
Thomas J. Mulvaney, M.D.
Harald E. Schulknocht, M.D. Harold F. Schuknecht, M.D. Richard J. Simmons, M.D. Porter H. Smith, M.D.

Charles T. Wood

William H. Claflin III, Chairman Melville Chapin Robert C. Jordan

Human Studies Subcommittee

Robert D. Williams, Chairman Julianne T. Buono Leo H. Daley, Jr.

Max L. Goodman, M.D.

W. Morton Grant, M.D. Robert S. Kimura, Ph.D. Ronald W. Lamont-Havers, M.D. Harold F. Schuknecht, M.D. Robert T. P. Storer, Jr. Richard A. Thoft, M.D. Charles T. Wood

Library and Archives

William W. Montgomery, M.D., Chairman

Henry F. Allan, M.D. Douglas Bryant Richard L. Dallow, M.D. Claes H. Dohlman, M.D. Edwin B. Dunphy, M.D. B. Thomas Hutchinson, M.D.

John W. Irwin, M.D. Jeffrey R. Kelly Robert S. Kimura, Ph.D. C. Robin LeSueur Moses H. Lurie, M.D. Thomas J. Mulvaney, M.D.

Abraham Pollen, M.D. Harold F. Schuknecht, M.D. Porter H. Smith, M.D.

Charles Snyder Richard A. Thoft, M.D.

Personnel and Pension

Henry K. Porter, Chairman Melville Chapin Thomas B. Frost Robert C. Jordan Jeffrey R. Kelly George A. McLaughlin, Sr. Anthony P. Reis Betty Stanford Robert T. P. Storer, Jr. Charles T. Wood

Policy Review

Robert C. Jordan, Chairman Robert J. Brockhurst, M.D. Julianne T. Buono Melville Chapin William H. Claflin III Claes H. Dohlman, M.D. George E. Garcia, M.D. W. Morton Grant, M.D. B. Thomas Hutchinson, M.D. Roy A. Johnson, M.D. Robert E. Klotz, M.D. Joseph A. Moretti, M.D. William W. Montgomery, M.D. Charles D. J. Regan, M.D. Anthony P. Reis Harold F. Schuknecht, M.D. Porter H. Smith, M.D. Charles T. Wood



ADMINISTRATION

All listings as of December 31, 1978

Salary

Melville Chapin William H. Claflin III Robert C. Jordan Charles T. Wood

Social Service Advisory

Mrs. Robert C. Meisel, Chairman Frank G. Berson, M.D. Mrs. Malcolm B. Carsley Barbara E. Corey, R.N. Robert Danahy Barbara J. Dawson Ruth Farrisey, R.N. George E. Garcia, M.D. Jeffrey R. Kelly Mrs. Edgar H. Kent Moses H. Lurie, M.D. Rhoda K. Morrison Rosanne Ring Richard A. Thoft, M.D. Alfred D. Weiss, M.D. Michael Zoller, M.D.

Accreditation

Jeffrey R. Kelly, Chairman Margarete L. Arndt Eleanor Bushman Barbara E. Corey, R.N. Claes H. Dohlman, M.D. George E. Garcia, M.D. Richard Giovanoni, R.Ph. Max L. Goodman, M.D. Judith M. Grant Francis S. Hill James Holzer Barbara Houtman Herbert I. Kirshnit August R. Meyer Harold F. Schuknecht, M.D. Madeline S. Shipsey Porter H. Smith, M.D. Taylor R. Smith, M.D. Charles Snyder Alfred L. Weber, M.D. Alfred D. Weiss, M.D. Charles T. Wood

Animal Holding Area

John W. Irwin, M.D., Chairman Daniel M. Albert, M.D. Julianne T. Buono Cecil K. Drinker, M.B.A. Robert Griffith, D.V.M. Porter H. Smith, M.D. Bruce Szamier, Ph.D. Robert York

Energy Conservation Committee

William C. Mercer, Chairman Andrew B. Baker Joseph Bellefontaine James J. Cunniff Arthur Doherty Cecil K. Drinker, M.B.A. Arthur J. Dunne James Holzer Herbert I. Kirshnit Robert Marshall James G. McMahon David S. Walton, M.D. **Nominating Committee**

Leo F. Daley, Sr., Chairman Richard Harte August R. Meyer Robert D. Williams

Development Committee

Melville Chapin, Chairman Julianne T. Buono Richard P. Chapman William H. Claflin III Dominic P. DiMaggio Arthur J. Dunne Richard Harte Francis S. Hill Robert C. Jordan Henry A. Mosher, M.D. Joseph B. Nadol, M.D. Frederick C. Rozelle, Jr. Charles T. Wood

Planning Committee

George M. Lovejoy, Jr., Chairman Bruce A. Beal Julianne T. Buono Claes H. Dohlman, M.D. J. Frank Gerrity B. Thomas Hutchinson, M.D. Roy A. Johnson, M.D. Robert C. Jordan Jeffrey R. Kelly John M. Lord Anthony P. Reis Harold F. Schuknecht, M.D. Porter H. Smith, M.D. Charles T. Wood

Building Subcommittee

J. Frank Gerrity, Chairman Bruce A. Beal Julianne T. Buono Robert C. Jordan Stanley G. Russell, Jr. Charles T. Wood

Budget

Robert C. Jordan, Chairman Margarete Arndt Julianne T. Buono Barbara E. Corey, R.N. Claes H. Dohlman, M.D. Arthur J. Dunne Judith Harvey, R.N. James Holzer Jeffrey R. Kelly William W. Montgomery, M.D. Charles D. J. Regan, M.D. Anthony P. Reis Harold F. Schuknecht, M.D. Porter H. Smith, M.D. Betty Stanford James I. Summers Richard A. Thoft, M.D. Alfred L. Weber, M.D. Charles T. Wood Alice W. Yancey

Director Charles T. Wood

Associate Director and Administrator Jeffrey R. Kelly

Associate Director of Fiscal Affairs
Anthony P. Reis

Director of Nursing Services Barbara E. Corey, R.N.

Associate Director of Development and Public Affairs Arthur J. Dunne

Assistant Director of Planning Julianne T. Buono

Director of Patient ServicesMargarete L. Arndt

Director of Personnel Betty Stanford

Assistant Administrator James Holzer

DEPARTMENTS & SERVICES

Admitting

Ruth Dorfman, R.N., Manager

Building Services John Douglas, Director

Communications and Information Services Jean M. Wilson, Manager

Dietary Services Herbert I. Kirshnit, Director

Maintenance Services Robert Marshall, Director

Medical RecordsBarbara Houtman, Director

Operating RoomsEvelyn Brewster, R.N., Director

Outpatient Department Francis X. McCrossan, Administrator Alice Sarno, Chief O.P.D. Admitting Officer

Purchasing and Stores Lehan Power, Director

Scheduling Mary Louise Davis, Manager

Social Services Madeline S. Shipsey, Director

Volunteer Services Rosanne Ring, Director





LADIES VISITING COMMITTEE

All listings are as of December 31, 1978





Executive Committee 1978 Mrs. James I. Summers, Chairman Mrs. William W. Montgomery,

First Vice-Chairman Mrs. Robert F. Kurtz, Second Vice-Chairman Mrs. Harold F. Schuknecht,

Treasurer Mrs. I. D. Okamura, Recording Secretary Mrs. Calvin A. King,

Corresponding Secretary Mrs. Henry F. Allen Mrs. Howard M. Ecker

Mrs. Edgar H. Kent Mrs. Henry Lyman, Jr. Mrs. Robert C. Meisel Mrs. John Lowell, Immediate

Past Chairman

Members

Mrs. Henry F. Allen Mrs. Manning Barry Mrs. Barry Benjamin Mrs. Maurice Berlin Mrs. Yale J. Berry Mrs. C.J. Boulris Mrs. Richard Bowman Mrs. Harry E. Braconier Mrs. Edwin J. Carr Mrs. John Carroll III Mrs. Malcolm B. Carsley Mrs. Thomas Cavanaugh Mrs. Richard B. Chapman Mrs. Julian F. Chisholm Mrs. Nathaniel D. Clapp Mrs. John Clorite Mrs. Thomas P. Cronin Mrs. Colin McA. Cunningham Miss Winifred A. Cunningham Mrs. Richard Cary Curtis' Mrs. Leo F. Daley Mrs. Benjamin C. Davis Mrs. Daniel F. DiPalma Mrs. Claes H. Dohlman

Mrs. David D. Donaldson Mrs. Weld Douglass Mrs. Edgar Driscoll, Jr.

Mrs. Edwin B. Dunphy Mrs. Howard M. Ecker Mrs. John B. Eliot Mrs. William Ellison

Mrs. F. Murray Forbes Mrs. Albert R. Frederick, Jr. Mrs. Richard R. Gacek

Mrs. Harold S. Geneen Mrs. Kweku N. Ghartey Mrs. Avram J. Goldberg

Mrs. Robert L. Goodale Mrs. Max L. Goodman

Mrs. W. Morton Grant Mrs. Trygve Gundersen Mrs. Thomas L. Higgins

Mrs. Valentine Hollingsworth Mrs. Edgar M. Holmes

Mrs. Alfred L. Hurst

Mrs. Carl C. Johnson Mrs. Roy A. Johnson Mrs. Robert C. Jordan

Mrs. Varaztad H. Kazanjian*

Mrs. Edgar H. Kent Mrs. Calvin A. King Mrs. Herbert I. Kirshnit Mrs. Thomas R. Klein Mrs. Robert E. Klotz

Mrs. Clarence E. Knapp Mrs. Milton D. Knight Mrs. Robert F. Kurtz

Mrs. Clarence E. Kylander Mrs. Bertram H. Loewenberg Mrs. Robert H. Lofgren

Mrs. John Lowell* Mrs. Henry Lyman, Jr. Mrs. Alexander MacMillan Miss Anita Mangiaracine

Mrs. Arthur E. Margulies Mrs. David B. McCloskey Miss Maryellen McEvoy

Mrs. J. Wallace McMeel Mrs. Robert C. Meisel* Mrs. Daniel Miller

Mrs. G. Gardner Monks Mrs. William W. Montgomery Mrs. Frederick S. Moseley III

Mrs. Stephen P. Mugar

Mrs. Joseph B. Nadol Mrs. I. D. Okamura Mrs. George M. Olive, Jr.

Mrs. Irving Pavlo Mrs. Grafton Perkins Mrs. Enid Phillips

Mrs. Henri Prunaret Mrs. Franklin Reece Mrs. Charles D. J. Regan

Miss Florence Reid Mrs. John B. Richardson*

Mrs. Karl Reimer

Mrs. Phillips H. Roland II Mrs. Aram Roopenian Mrs. Milton Rosenthal

Mrs. Baruch J. Sachs Mrs. William L. Saltonstall Mrs. Ernest J. Sargeant

Mrs. Charles L. Schepens

Mrs. Harold F. Schuknecht Mrs. Earle S. Seale Mrs. John G. Sebestyen

Mrs. Alfred W. Scott Mrs. Henry R. Scott Mrs. Samuel Simons

Mrs. William A. Slade, Jr.*
Mrs. Albert E. Sloane
Mrs. Taylor R. Smith
Mrs. George E. Stephenson

Mrs. Mildred Sullivan

Mrs. James I. Summers Mrs. Thomas C. Thacher

Mrs. John C. Thayer Mrs. Robert Truesdale Mrs. Silvio R. von Pirquet Mrs. Donald R. Weis

Mrs. Lyon Weyburn Mrs. Roy R. Wheeler Mrs. Henry E. Wile Mrs. William R. Wilson Mrs. Andrew N. Winslow, Jr.

Mrs. Victor A. Wolff

Honorary Members

Mrs. Loretta McLaughlin Mrs. John J. Ring

Associate Members

Mrs. Richard P. Breed, Jr. Mr. and Mrs. Elliot W. Brown Mrs. Mortimer L. Cashman

Mrs. William Endicott II Mrs. James P. Fenn

Mrs. Warren D. Haley Mrs. John Hand Mrs. John R. Haug

Mrs. J. J. Hindon Hyde Mrs. Leonard B. Kilgore Mrs. Thomas H. Lanman

Mrs. John C. G. Loring Mrs. Joseph T. McGrath

Mrs. George R. Minot Mrs. Charles F. Nayor Mrs. Richard C. Norton Mrs. Joseph F. O'Connell Mrs. Emerson T. Oliver

Mrs. Winthrop E. Sears

Mr. and Mrs. Andre R. Sigourney Mrs. C. Fred Smith, Jr.

Mrs. Gerard B. Townsend Mrs. Lewis L. Wadsworth Mr. and Mrs. Thomas J. Walsh

Miss Agnes Wheeler Mrs. Evelyn G. Whiton Mrs. Royal C. Wilson

*Past Chairman



Otolaryngology

ACTIVE STAFF Chief of Otolaryngology Harold F. Schuknecht, M.D.

Surgeons in Otolaryngology William L. Hayden, M.D. Alfred L. Hurst, M.D. Thomas R. Klein, M.D. Robert E. Klotz, M.D. Robert H. Lofgren, M.D. William W. Montgomery, M.D. Harold F. Schuknecht, M.D.

Associate Surgeons in Otolaryngology Yale J. Berry, M.D. Allan G. Edwards, M.D. C. Edward Jackson, M.D. Richard L. Fabian, M.D. Roy A. Johnson, M.D. Donald G. Keamy, M.D. John M. Kurkjian, M.D. Clarence Kylander, M.D. Carl M. Lieberman, M.D. Joseph A. Moretti, M.D. Rufus C. Partlow, M.D. Marshall S. Strome, M.D. Richard C. Webster, M.D. William R. Wilson, M.D.

Assistant Surgeons in Otolaryngology Robert P. Cipro, M.D. Edward G. Glinski, M.D. Edward E. Jacobs, M.D. Ely A. Kirschner, M.D. William G. Lavelle, M.D. Jon B. Liland, M.D. Thomas J. Mulvaney, M.D. Joseph B. Nadol, M.D. Angelo Pappanikou, M.D. Stephen A. Smith, M.D.

Assistants in Otolaryngology Barry J. Benjamin, M.D. Howard M. Ecker, M.D. James P. Hughes, M.D. James H. Kelly, M.D. Trevor J. I. McGill, M.D.

David E. Nash, M.D. Stephen A. Parker, M.D. Edward J. Reardon, M.D. Sved S. Rizvi, M.D. Howard G. Smith, M.D. Alfred D. Weiss, M.D.

Consulting Chief of Otolaryngology Leroy A. Schall, M.D.

Senior Consulting Surgeons in Otolaryngology Walter J. E. Carroll, M.D. Charles J. Drooker, M.D. John R. Frazee, M.D. Robert L. Goodale, M.D. Edgar M. Holmes, M.D. Moses H. Lurie, M.D. John E. McKeigue, M.D. Daniel Miller, M.D. John R. Richardson, M.D. Sidney R. Wilker, M.D. Bernard Zonderman, M.D.

Senior Consulting Associate Surgeons in Otolaryngology Aram Roopenian, M.D. John C. Trakas, M.D.

HONORARY STAFF Associate Surgeons in Otolaryngology Charles Kent, M.D. Herman J. Sternstein, M.D.

Assistant Surgeon in Otolaryngology Elizabeth DeBlois, M.D.

Assistant in Otolaryngology Frank W. Brady, M.D.

ASSOCIATE STAFF Associate Surgeon in Otolaryngology Werner D. Chasin, M.D.

Assistants in Otolaryngology Robert Wayne Clubb, M.D. John Nicholas Vandemoer, M.D.

Consultant in Prosthodontia Peter E. Goldberg, D.D.S.

SERVICES Subdivision of Plastic and **Reconstructive Surgery**

Richard L. Fabian, M.D. Chief of Plastic and Reconstructive Surgery

Aram Roopenian, M.D. Senior Consulting Associate Surgeon in Plastic and Reconstructive Surgery

Richard C. Webster, M.D. Associate Surgeon in Plastic and Reconstructive Surgery

Edward E. Jacobs, M.D. Assistant Surgeon in Plastic and Reconstructive Surgery

William G. Lavelle, M.D. Assistant Surgeon in Plastic and Reconstructive Surgery

Howard M. Ecker, M.D. Assistant in Plastic and Reconstructive Surgery

John Nicholas Vandemoer, M.D. Assistant in Plastic and Reconstructive Surgery

Subdivision of **Otolaryngologic Pathology** Max L. Goodman, M.D., Director Ben Z. Pilch, M.D., Assistant in Pathology

Head and Neck Tumor Clinic William W. Montgomery, M.D., Director

Endoscopy Service William W. Montgomery, M.D., Director Thomas J. Mulvaney, M.D., Associate Director

Esophageal Voice Classes Eve Herbert, Director

Audiology Rhoda K. Morrison, Director

Residents Peter S. Ambrus, M.D. Stuart H. Bentkover, M.D. Carl A. Brown, M.D. Paul J. Carniol, M.D. Elaine D. Carrol, M.D. Zeno N. Chicarilli, M.D Louise I. DiGregorio, M.D. Roland D. Eavey, M.D. Bradley Hall, M.D.
Jeffrey P. Harris, M.D.
Steven B. Hopping, M.D. Michael P. Joseph, M.D. Cameron J. Kirchner, M.D. Joseph H. Oyer, M.D. Hubert C. Patterson, M.D. Martin A. Shugar, M.D. Jeffrey V. Stein, M.D.

Ophthalmology

ACTIVE STAFF Chief of Ophthalmology Claes H. Dohlman, M.D.

Associate Chief of Ophthalmology Charles D. J. Regan, M.D. **Assistant Chief of**

Ophthalmology Richard A. Thoff, M.D.

Surgeons in Ophthalmology S. Arthur Boruchoff, M.D. Robert J. Brockhurst, M.D. Thomas P. Cronin, M.D. Claes H. Dohlman, M.D. David D. Donaldson, M.D. W. Morton Grant, M.D. B. Thomas Hutchinson, M.D. Charles D. J. Regan, M.D. Alfred W. Scott, M.D. David H. Scott, M.D. Richard J. Simmons, M.D.

Taylor R. Smith, M.D. Richard A. Thoft, M.D.

Associate Surgeons in **Ophthalmology** Daniel M. Albert, M.D. Lloyd M. Aiello, M.D. Charles Beyer, M.D. Richard B. Chapman, M.D. H. MacKenzie Freeman, M.D. Carl G. Freese, M.D. Stephen J. Fricker, M.D. Albert Frederick, Jr., M.D. George E. Garcia, M.D. John R. Gehring, M.D. Warren D. Haley, M.D. Ralph H. Hinckley, M.D. Roland E. Houle, M.D. Robert C. Lawlor, M.D. Byron S. Lingeman, M.D. J. Wallace McMeel, M.D. George M. Olive, Jr., M.D. Robert Petersen, M.D. Ronald Pruett, M.D. Baruch J. Sachs, M.D. John Sebestyen, M.D. David Walton, M.D. Michael Wiedman, M.D.

Assistant Surgeons in

Ophthalmology Chester Boulris, M.D. Robert Bellows, M.D. Eliot Berson, M.D. Don•C. Bienfang, M.D. John M. Carroll, M.D. Leo T. Chylack, M.D. Eugene C. Ciccarelli, M.D. Richard Dallow, M.D. Elliot Finkelstein, M.D. Alexander Gaudio, M.D. Robert A. Gorn, M.D. Arthur S. Grove, Jr., M.D. Eric Johnson, M.D. Joseph C. Kim, M.D. Mohandas M. Kini, M.D. Arnold J. Kroll, M.D. Joel Arthur Kraut, M.D. Brent W. Lambert, M.D. Deborah Pavan-Langston, M.D. Eeva-Liisa Martola, M.D. Joseph Michon, M.D. David Miller, M.D. Edward Murphy, Jr., M.D. Ernst Meyer, M.D. Richard M. Robb, M.D. Perry Rosenthal, M.D. Harvey H. Slansky, M.D. Felipe Tolentino, M.D. Donald R. Weis, M.D. Silvio von Pirquet, M.D. Assistants in Ophthalmology

Mark B. Abelson, M.D. Ann Marie Bajart, M.D. Jack F. Bowers, M.D. John B. Constantine, M.D. Robert B. Cook, M.D. Stephen Depperman, M.D. David K. Dueker, M.D. David L. Epstein, M.D.

ault M. Farrell, M.D. chard P. Floyd, M.D. Stephen Foster, M.D. weku Ghartey, M.D. vangelos Gragoudas, M.D. avid S. Greenseid, M.D. avid A. Hill, M.D. atsuo Hirose, M.D. avid S. Hutchinson, M.D. arry Jacobs, M.D. y H. Kaufman, M.D. bert T. Lacy, M.D. imes R. Lee, M.D. aymond Liggio, M.D. eter B. Mooney, M.D. aul E. Pataky, M.D. imes T. Patten, M.D. avid G. Perkins, M.D. harles T. Post, M.D. nomas Richardson, M.D. onald W. Putnoi, M.D. imes Rosenberg, M.D. dward A. Ryan, M.D. enneth A. Stampfer, M.D. aniel W. Tolpin, M.D. lement Trempe, M.D. aul F. Vinger, M.D. eorge A. Violin, M.D. ohammed Z. Wafai, M.D. arold A. Woodcome, M.D.

ssociate Physician in phthalmology hirley H. Wray, M.D.

ssociate staff
ssistants in Ophthalmology
harles D. Belcher III, M.D.
ichael Bradbury, M.D.
dward F. Goodman, M.D.
nilip Harris, M.D.
enneth Kenyon, M.D.
heraphat Lopansri, M.D.
eon Remis, M.D.
neodore Renna, M.D.
aldwell Smith, M.D.
avid Mears Tracy, M.D.
afa Wagdi, M.D.
bhan Zwaan, M.D.

onsulting Chiefs of phthalmology enry F. Allen, M.D. aul A. Chandler, M.D. avid G. Cogan, M.D. dwin B. Dunphy, M.D.

enior Consulting Surgeons in phthalmology

Robert Alpert, M.D. arry E. Braconier, M.D. irgil G. Casten, M.D. oseph M. Clough, M.D. lahlon T. Easton, M.D. rygve Gundersen, M.D. arl C. Johnson, M.D. rendan D. Leahey, M.D. umner D. Liebman, M.D. ohiro D. Okamura, M.D. ohiro D. Okamura, M.D. obraham Pollen, M.D.

Karl Riemer, M.D. Charles L. Schepens, M.D. Earl S. Seale, M.D. Albert E. Sloane, M.D. Garrett L. Sullivan, M.D. Francis J. West, M.D.

HONORARY STAFF Associate Surgeons in Ophthalmology

Frederick B. Breed, M.D. John M. Hill, M.D. Charles H. MacLaughlin, M.D.

Assistant Surgeons in Ophthalmology Julian F. Chisholm, M.D. Robert Kinder, M.D. Arthur M. Morrissey, M.D. Bertha Offenbach, M.D.

SERVICES

General Eye Service Charles D. J. Regan, M.D., Director

Ophthalmic Pathology Taylor R. Smith, M.D., Director

Glaucoma Service W. Morton Grant, M.D., Director

Cornea Service Kenneth Kenyon, M.D., Director

Ocular Motility Service Stephen S. Fricker, M.D., Director

Neuro-Ophthalmology Shirley H. Wray, M.D., Director

Retina Service Charles D. J. Regan, M.D., Acting Director

Pediatric Ophthalmology David S. Walton, M.D., Director

Resident Training
C. Stephen Foster, M.D.,
Director
Chin Wing Chu, M.D.,
Assistant Director

Clinical Fellows in Ophthalmology Retina Service

Aly Abdel Monem El-Motty, M.D. Thomas Friberg, M.D. Michael William Gaynon, M.D. John Charles Hoskins, M.D. Peter Louis Lou, M.D. Kathleen Maguire, M.D. Ceasar Pitta, M.D. William B. Spencer, M.D. James A. Valone, M.D. Leroy William Vaughn, M.D. Stephen A. Youngwirth, M.D.

Cornea Service Robert C. Campbell, M.D. Chin Wing Chu, M.D. Jerry A. Fogle, M.D. Jonathan H. Lass, M.D. Robert C. Snip, M.D. Gilbert K. Yamamoto, M.D.

Glaucoma Service Saeid Abedin, M.D. William P. Boger III, M.D. (part-time) Joseph F. Burke, M.D. Deborah S. Murphy, M.D. John V. Thomas, M.D.

Neuro-Ophthalmology Louis W. Adams, M.D.

ElectrophysiologyJo Bernice Rosen, M.D.

Eye Pathology Frank G. Berson, M.D. John C. Madigan, M.D. Neil N. Silbermann, M.D.

Residents Marc Sheldon Buzney, M.D. Robert Alan Caine, M.D. Donald J. D'Amico, M.D. Thaddeus P. Dryja, M.D. Anthony J. Fraioli, M.D. Robert Friedlaender, M.D. Harold Granek, M.D. Thomas R. Hedges, M.D. Dorothy Jean Horns, M.D. Samuel Gregory Jacobson, M.D. Sulayman E. Jallow, M.D. Edward W. Kim, M.D. Henry J. Kriegstein, M.D. Richard M. Low, M.D. Elbert H. Magoon, M.D. George A. Moo-Young, M.D. Andrew J. Packer, M.D. Peter H. Pavan, M.D. Arnold R. Rabin, M.D. Claudia U. Richter, M.D. Susan H. Ryu, M.D.
Delia N. Sang, M.D.
Bradford J. Shingleton, M.D.
Roger F. Steinert, M.D. John TenPas, M.D. Jane Wang, M.D.

New England Eye Bank Maryellen McEvoy, Executive Director S. Arthur Boruchoff, M.D. Richard A. Thoft, M.D. Medical Co-Directors

Executive Committee of New England Eye Bank John K. Benson, Jr. S. Arthur Boruchoff, M.D. Mrs. Malcolm B. Carsley Mrs. Richard Cary Curtis – honorary Mrs. James W. Dawsen, Jr. Haynes H. Fellows, Jr. Erick Kauders – honorary Endicott Smith Richard A. Thoft, M.D.





Department of Anesthesiology Chief of Anesthesiology Porter H. Smith, M.D.

Anesthesiologists
John V. Donlon, M.D.
Jin W. Kim, M.D.

Assistant Anesthesiologists Malcolm J. Heslop, M.D. Daniel W. Lang, M.D. Kathryn E. McGoldrick, M.D. David I. Sonn, M.D. Lily G. Tabbal, M.D.

Assistants in Anesthesiology Vitali H. DeGuzman, M.D. Harry R. Frohberg, M.D. Ismail S. Sensel, M.D.

Assistants in Anesthesiology (part-time) J. A. Jeevendra Martyn, M.D.

J. A. Jeevendra Martyn, M.I. Daniel Nozik, D.D.S. Allan P. Reed, M.D. Carl E. Rosow, M.D. Department of Radiology Chief of Radiology Alfred L. Weber, M.D.

Associate Radiologist Kiyokazu J. Momose, M.D.

Assistant Radiologists Steven Hammerschlag, M.D. Jeanne Keller, M.D. Daniel Kido, M.D.

Consultants in Radio Therapy Milford D. Schulz, M.D. Herman D. Suit, M.D. Chiu-Chen Wang, M.D.

MEDICAL UNIT ACTIVE STAFF Chief of Medical Unit

Lloyd Axelrod, M.D.

Consultants in Internal
Medicine

Lloyd Axelrod, M.D. Gerald J. Doyle, M.D. Richard A. Field, M.D.

ASSOCIATE STAFF
Consultant in Infectious
Disease

Ann S. Baker, M.D.

Consultants in Internal Medicine

Nelson Mark Braslow, M.D. Franklin Richard Bringhurst, M.D. Charles J. Homcy, M.D. Norman Lee Letvin, M.D. Barbara Elizabeth Murray, M.D. Harry Rissler Phillips, M.D.

Microbiology Joan Haaf, Bacteriologist

Clinical Laboratory
Eleanor Bushman
Chief Medical Technologist

Epidemiologist Ann S. Baker, M.D.

Associate Director of Bacteriology
Ann S. Baker, M.D.

PharmacyRichard Giovannoni, Director

Department of Otolaryngology

Reaton Peabody Laboratory
Nelson Y. S. Kiang, Ph.D.,
Director
Keld Baden-Kristensen, S.M.
Terrance R. Bourk, Ph.D.
Robert M. Brown, S.B.
Steven H. Colburn, Ph.D.
Alan H. Crist, S.B.
Bertrand Delgutte, S.M.
Donald K. Eddington, Ph.D.
Barbara C. Fullerton, Ph.D.
Donald C. Galley, S.B.
Margaret L. Gifford, S.B.
John J. Guinan, Jr., Ph.D.
Thomas Holton, S.M.
Hollis L. Hosford, Ph.D.
Robert A. Levine, M.D.
M. Charles Liberman, Ph.D.
Thomas J. Lynch III, S.M.
Michael J. Mulroy, Ph.D.
Joseph B. Nadol, M.D.
William T. Peake, D.M.Sc.
David K. Ryugo, Ph.D.

David A. Steffens, S.B. Thomas F. Weiss, Ph.D. Electron Microscopy Laboratory Robert S. Kimura, D.M.Sc. Joseph B. Nadol, M.D.

Frank J. Stefanov, S.B.

Histopathology Harold F. Schuknecht, M.D. William W. Montgomery, M.D.

Microcirculatory Laboratory John W. Irwin, M.D., Director Research Fellows in Otolaryngology Rudolf J. Hausler, M.D. Ana M. Mendoza, M.D.

Ernst Richter, M.D.

Naoko Shinozaki, M.D.

Department of Ophthalmology Howe Laboratory of Ophthalmology

Claes H. Dohlman, M.D., Director Daniel M. Albert, M.D. P. John Anderson, M.D. Don C. Bienfang, M.D. Hong-Ming Cheng, Ph.D. Leo T. Chylack, Jr., M.D. David D. Donaldson, M.D. David K. Dueker, M.D. David L. Epstein, M.D. Stephen J. Fricker, M.D. W. Morton Grant, M.D.

Ph.D.
Donovan J. Philaja, Ph.D.
Thomas M. Richardson, M.D.
Shirley H. Wray, M.D.
Johan Zwaan, M.D.

Judith Jedziniak-McGregor,

Librarian Charles Snyder

Research Administrator Cecil K. Drinker, M.B.A.

Research Fellows
Hashmat Chaudhry, M.D.
M. Kathryn Gillis, Ph.D.
Jane R. Lubin, M.D.
Kambiz Moazed, M.D.
Laurie W. Raymond, M.D.
Deanna P. Ricker, M.D.
John V. Thomas, M.D.

Berman-Gund Laboratory fo the Study of Retinal Degenerations Eliot L. Berson, M.D., Director

Ross B. Edwards, Ph.D.
Jo Bernice Rosen, M.D.
Michael A. Sandberg, Ph.D.
Susan Y. Schmidt, Ph.D.
R. Bruce Szamier, Ph.D.

Research Associates in Ophthalmology Charles E. Riva, D.Sc. Ernst G. Wolf, M.D.

HARVARD MEDICAL SCHOOL FACULTY

All listings are as of December 31, 1978

Department of Otolaryngology Walter Augustus LeCompte **Professor of Otology** Professor of Laryngology Harold F. Schuknecht, M.D.

Professor of Otolaryngology William W. Montgomery, M.D.

Associate Professor of Pathology

Max L. Goodman, M.D.

Associate Professor of Otolaryngology Daniel Miller, M.D

Assistant Professors of Otolaryngology Joseph B. Nadol, M.D. Trevor J. I. McGill, M.D. William R. Wilson, M.D.

Assistant Clinical Professors of Otolaryngology Burton F. Jaffe, M.D. Robert H. Lofgren, M.D.

Marshall S. Strome, M.D. Clinical Instructors in

Otolaryngology Douglas W. Bell, M.D Barry J. Benjamin, M.D. Yale J. Berry, M.D. Allen G. Edwards, M.D. Richard L. Fabian, M.D. Edward J. Glinski, M.D. William J. Hayden, M.D. Alfred L. Hurst, M.D. Edward E. Jacobs, M.D. Roy A. Johnson, M.D. James H. Kelly, M.D. Ely A. Kirschner, M.D. Thomas R. Klein, M.D. Robert E. Klotz, M.D. William G. Lavelle, M.D. Carl M. Lieberman, M.D. Joseph A. Moretti, M.D. Thomas J. Mulvaney, M.D. David E. Nash, M.D. Angelo Pappanikou, M.D. Rufus C. Partlow, M.D. Edward J. Reardon, M.D. Syed S. Rizvi, M.D. Howard Gary Smith, M.D. Stephen A. Smith, M.D. John C. Trakas, M.D.

Lecturers on Otolaryngology Werner D. Chasin, M.D. Richard R. Gacek, M.D. Robert S. Kimura, D.M.Sc. Walter A. Rosenblith, Ing. Rad.

Senior Research Associate in **Otolaryngology** Nelson Y. S. Kiang, Ph.D.

Research Associates in Otolaryngology Charles C. Lieberman, Ph.D.

Terrance R. Bourk, Ph.D.

Research Fellows in Otolaryngology

Rudolf J. Hausler, M.D. Ana M. Mendoza, M.D. Ernst Richter, M.D. Naoko Shinozaki, M.D.

Principal Associate in Otolaryngology John W. Irwin, M.D

Clinical Fellows in Otolaryngology Peter S. Ambrus, M.D. Stuart H. Bentkover, M.D. Carl A. Brown, M.D. Paul J. Carniol, M.D. Elaine D. Carrol, M.D

Zeno N. Chicarilli, M.D. Louise I. DiGregorio, M.D. Roland D. Eavey, M.D. Bradley Hall, M.D. Jeffrey P. Harris, M.D. Steven B. Hopping, M.D. Michael P. Joseph, M.D. Cameron J. Kirchner, M.D. Joseph H. Oyer, M.D. Hubert C. Patterson, M.D. Martin A. Shugar, M.D.

Department of Ophthalmology

Jeffrey V. Stein, M.D.

Professors of Ophthalmology Claes H. Dohlman, M.D. Daniel M. Albert, M.D. W. Morton Grant, M.D.

Clinical Professor of **Ophthalmology** Henry F. Allen, M.D.

Associate Professors of Ophthalmology Mathea R. Allansmith, M.D. Eliot L. Berson, M.D. Leo T. Chylack, Jr., M.D. David D. Donaldson, M.D. Stephen J. Fricker, M.D. David Miller, M.D. Charles D. J. Regan, M.D. Liane Reif-Lehrer, Ph.D. Richard M. Robb, M.D. Shirley H. Wray, M.D.

Associate Clinical Professors of Ophthalmology S. Arthur Boruchoff, M.D Robert J. Brockhurst, M.D. H. MacKenzie Freeman, M.D. Taylor R. Smith, M.D.

Assistant Professors of Ophthalmology Michael B. Berman, Ph.D. Don C. Bienfang, M.D. Peter C. Davison, Ph.D. David L. Epstein, M.D. Evangelos S. Gragoudas, M.D. Arthur S. Grove, Jr., M.D. Judith A. Jedziniak-McGregor, Ph.D. Kenneth R. Kenyon, M.D. Noritsugu Mukai, M.D. Arthur H. Neufeld, Ph.D.

Robert A. Petersen, M.D. Charles E. Riva, D.Sc. Susan Y. Schmidt, Ph.D. R. Bruce Szamier, Ph.D. Richard A. Thoft, M.D. David S. Walton, M.D. Johan Zwaan, M.D.

Assistant Clinical Professors of Ophthalmology Lloyd M. Aiello, M.D Charles K. Beyer, M.D. Tatsuo Hirose, M.D. B. Thomas Hutchinson, M.D. Sumner D. Liebman, M.D. J. Wallace McMeel, M.D. Deborah Pavan-Langston, M.D. Abraham Pollen, M.D. Alfred W. Scott, M.D. Richard J. Simmons, M.D. Felipe I. Tolentino, M.D.

Lecturers on Ophthalmology David M. Maurice, Ph.D. Giuseppina d'Elia Raviola, M.D.

Principal Associate in **Ophthalmology** Miguel Refojo, D.Sc.

Associates in Ophthalmology Bireswar Chakrabarti, Ph.D. Charles K. Cintron, Ph.D. François C. Delori, Ph.D. Cecil K. Drinker, M.B.A.

Instructors in Ophthalmology Alice J. Adler, Ph.D. Alan R. Adolph, Ph.D. Peter J. Anderson, Ph.D. Stephen P. Bartels, Ph.D. William P. Boger III, M.D. Hong-Ming Cheng, Ph.D. Marshall G. Doane, Ph.D. David K. Dueker, M.D. Ross B. Edwards, Ph.D. Gilbert T. Feke, Ph.D C. Stephen Foster, M.D. Ann B. Fulton, M.D. Erwin Hultsch, Ph.D. Bernard J. Jacobson, Ph.D. Richard P. Leary, Ph.D. No Hee Park, Ph.D. Benigno D. Peczon, Ph.D. Richard L. Pharo, D.Sc. Donovan J. Philaja, Ph.D. Michael A. Sandberg, Ph.D. Jerry Silver, Ph.D. D. Max Snodderly, Jr., Ph.D. Mohammed Z. Wafai, M.D.

Clinical Instructors in Ophthalmology A. Robert Bellows, M.D. John M. Carroll, M.D. Richard B. Chapman, M.D. Richard L. Dallow, M.D. Elliot M. Finkelstein, M.D. Albert R. Frederick, Jr., M.D. Carl G. Freese, M.D. George E. Garcia, M.D Alexander R. Gaudio, M.D. John R. Gehring, M.D. Ralph H. Hinckley, M.D.





Roland E. Houle, M.D. Eric C. Johnson, M.D. Joseph C. Kim, M.D. Joel A. Kraut, M.D. Brent W. Lambert, M.D. Robert E. Lawlor, M.D. Byron S. Lingeman, M.D. Ernst J. Meyer, M.D. Joseph Michon, M.D. Irving L. Pavlo, M.D. Ronald C. Pruett, M.D. Thomas M. Richardson, M.D. Perry Rosenthal, M.D. Baruch J. Sachs, M.D. John G. Sebestyen, M.D. Harvey H. Slansky, M.D. Paul F. Vinger, M.D. Donald R. Weis, M.D. Michael S. Wiedman, M.D.

Clinical Assistants in Ophthalmology Mark B. Abelson, M.D. Ann M. Bajart, M.D. Jack F. Bowers, M.D. Eugene C. Ciccarelli, M.D. John B. Constantine, M.D. Howard L. Feldman, M.D. Richard P. Floyd, M.D. Kweku N. Ghartey, M.D. David S. Greenseid, M.D. Peter P. Gudas, M.D. David S. Hutchinson, M.D. Barry H. Jacobs, M.D. Jay H. Kaufman, M.D. Robert T. Lacy, M.D. James R. Lee, M.D. Edward B. Murphy, Jr., M.D. George M. Olive, Jr., M.D. Edward A. Ryan, M.D. Daniel W. Tolpin, M.D. Silvio R. von Pirquet, M.D.

Clinical Fellows in Ophthalmology Sheldon M. Buzney, M.D. Robert A. Caine, M.D. Robert C. Campbell, M.D. Chin Wing Chu, M.D. Donald J. D'Amico, M.D. Anthony J. Fraioli, M.D. Jerry A. Fogle, M.D. Thomas R. Friberg, M.D. Robert Friedlaender, M.D. Harold Granek, M.D. Thomas R. Hedges, M.D. Dorothy J. Horns, M.D. Samuel G. Jacobson, M.D. Sulayman E. Jallow, M.D. Edward W. Kim, M.D. Henry J. Kriegstein, M.D. Jonathan H. Lass, M.D. Richard M. Low, M.D. Elbert H. Magoon, M.D. George A. Moo-Young, M.D. Andrew J. Packer, M.D. Peter R. Pavan, M.D. Ceasar G. Pitta, M.D. Arnold R. Rabin, M.D Claudia U. Richter, M.D. Susan H. Ryu, M.D. Delia N. Sang, M.D. Bradford J. Shingleton, M.D. Robert C. Snip, M.D.
Roger F. Steinert, M.D.
John H. Tenpas, M.D. John V. Thomas, M.D.

Jane Wang, M.D. Gilbert K. Yamamoto, M.D. Research Fellows in Ophthalmology Louis W. Adams, M.D. Thomas E. Gillette, M.D.

Kathryn Gillis, Ph.D.

Timothy Kiorpes, Ph.D. Jane R. Lubin, M.D. Kambiz Moazed, M.D. Laurie W. Raymond, M.D. Deanna P. Ricker, M.D.

Department of Radiology **Associate Professor of** Radiology Alfred L. Weber, M.D.

Assistant Professors of Radiology

Steven Hammerschlag, M.D. Daniel Kido, M.D. Kiyokazu J. Momose, M.D.

Professor Emeritus of Radiation Therapy Milford D. Schulz, M.D.

Professors of Radiation Therapy Herman D. Suit, M.D.

Chiu-Chen Wang, M.D.

Department of Otolaryngology Surgical and Research Staffs

Altmann David W (See WEISS TF).

ANTOLI-CANDELA Francisco Jr, Kiang, NYS.: Unit activity underlying the N potential. Chapter in: Fvoked Electrical Activity in the Auditory Nervous System/ edited by R. F. Naunton and C. Fernandez.

— New York. Academic Press, 1978. pp. 165-191.

3AUER Jay W.: Tuning curves and masking funcons of auditory-nerve fibers in cat. Sensory Proc. 2: 156-72, 1978.

3enjamin Barry J (See WEBSTER RC).

CABEZUDO Lucia M.: The ultrastructure of the basiar membrane in the cat. Otolaryngol. 86:ORL-433, May-June 1978.

COLBURN H Steven, Latimer JS.: Theory of binaural nteraction based on auditory-nerve data.

II. Joint dependence on interaural time and ampliude differences in discrimination and detection. J Acoust Soc Am 64:95-106, Jul 1978.

Colburn H Steven, STERN RM.: Theory of binaural ineraction based on auditory-nerve data. IV. A model or subjective lateral position. J Acoust Soc Am 34:127-40, Jul 1978.

COLBURN H Steven, Durlach, NI.: Models on binaural interaction. Chapter in: Handbook of Perception, vol. 4/ edited by E.C. Carterette and M.P. Friedman. New York. — Academic Press, 1978. pp. 167-518.

Colburn H Steven (See DURLACH NI, HAUSLER R).

DURLACH Nathaniel I, Colburn HS.: Binaural phenomena. Chapter in: Handbook of Perception, ol. 4/ edited by E.C. Carterette and M.P. Friedman. — New York. Academic Press, 1978. pp. 365-466.

Durlach Nathaniel I (See COLBURN HS)

EDDINGTON Donald K, et al.: Place and periodicity bitch by stimulation of multiple scala tympani electodes in deaf volunteers. Trans Am Soc Artif Intern Drgans 24:1-5, 1978.

-abian Richard L (See MONTGOMERY WW).

GACEK Richard R, Goodman ML.: Management of nalignancy of the temporal bone. Laryngoscope 37:1622-34, Oct 1977.

GACEK Richard R.: "How I do it" — Otology and neurology; a specific issue and its solution. Transcanal labyinthectomy. Laryngoscope 88:1707-08, Oct 1977.

SACEK Richard R, Malmgren LT, Lyon MJ.: Localization of adductor and abductor motor nerve fibers o the larynx. Ann Otol Rhinol Laryngol 86:1-7, Nov-Dec 1977.

GACEK Richard R.: Location of brain stem neurons projecting to the oculomotor nucleus in the cat. Exper Neurol 57:725-49, Dec 1977.

GOODMAN Max L,: Irwin, JW.: Disodium cromoglycate in anaphylaxis and pollinosis. Ann Allergy 40:177-80, Mar 1978.

Goodman Max L, WARD PH.: Hoarsness, dyspnea and dysphasia in a young woman with Crohn's disease. Case records of the Massachusetts General Hospital, no. 35-1978. N Engl J Med 299:539-44, Sep 7, 1978.

GOODMAN Max L, Miller D, Levine PH.:
Nasopharyngeal carcinoma patients in Massachusetts. Chapter in: Third International Symposium on Detection and Prevention of Cancer, Mount Sinai School of Medicine, City University of New York, 1976/New York, Marcel Dekker, 1978. pp. 1591-8.

Goodman Max L (See GACEK RR, MOMOSE KJ, WEBER AL, ZOLLER M).

HAUSLER Rudolf, Marr E, Colburn HS.: Lokalisations und lateralisations-unschärfemessungen bei normalhörenden und bei patienten mit hörst-örungen. Chapter in: Proceedings of the Swiss ENT Society Congress of 1978, Bad Ragaz, Switzerland. Holton Thomas (See WEISS TF).

Irwin John W (See GOODMAN ML)

JOHNSON Don H.: The relationship of post-stimulus time and interval histograms to the timing characteristics of spike trains. Biophys J 22:413-30, Jan 1978. Kiang Nelson Y-S (See ANTOLI-CANDELA F, LIBERMAN MC).

LIBERMAN M Charles.: Auditory-nerve response from cats raised in a low-noise chamber. J Acoust Soc Am:442-55, Feb 1978.

LIBERMAN M Charles, Kiang NYS.: Acoustic trauma in cats: cochlear pathology and auditory-nerve activity. Acta Oto-laryngol [Suppl] no. 358, 1978. Ling Alex (See WEISS TF).

McGILL Trevor.: Mycotic infection of the temporal bone. Arch Otolaryngol 104:140-44, Mar 1978. Marr Elizabeth (See HAUSLER R).

MILLER Daniel.: Management of the dying patient with head and neck cancer. Ann Otol Rhinol Laryngol 86:801-5, Nov-Dec 1977.

MILLER Daniel.: Presidential address to the section meetings of the American Laryngological, Rhinological and Otological Society, Inc: Constraints on the practice of otolaryngology. Laryngoscope 88:1082-9, Jul 1978.

Miller Daniel, PITMAN SW, et. al.: Weekly high dose methotrexate with leucovorin rescue as initial adjuvant therapy in squamous cell carcinoma of the head and neck. Chapter in: *Adjuvant Therapy of Cancer/* edited by S.S. Salmon and S.E. Jones. — New York. North-Holland Pub. Co, 1977. pp. 467-75.

Miller Daniel (See GOODMAN ML).

16:219-26, Aug 1978.

MONTGOMERY William W.: Bilateral acoustic neurinomas. A case report. Ann Otol Rhinol Laryngol 87:135-7, Jan-Feb 1978.

MONTGOMERY William W.: Salivary bipass tube. Ann Otol Rhinol Laryngol 87:159-62, Mar-Apr 1978. MONTGOMERY William W.: Endoscopy and surgery of the larynx and trachea. Radiol Clin North Am

MONTGOMERY William W, Fabian RL, et. al.: Non-traumatic otolaryngologic emergencies. Chapter in: *Principles and Practice of Emergency Medicine*/edited by G.R. Schwartz et. al. — Philadelphia. Saunders, 1978. pp. 1050-1060.

Montgomery William W (See WEBER AL) Mulroy Michael J (See WEISS TF).

NADOL Joseph B Jr.: Viral particles in nasopharyngeal carcinoma. Laryngoscope 87:1932-7, Nov 1977. NADOL Joseph B Jr.: Intercellular junctions in the Organ of Corti. Ann Otol Rhinol Laryngol 87:70-80, Jan-Feb 1978.

NADOL Joseph B Jr.: Hearing loss as a sequela of meningitis. Laryngoscope 88:739-55, May 1978. Nadol Joseph B Jr (See ZOLLER M).

Peake William T (See WEISS TF).

PETERSON Scott K, Weiss TF, et. al.: Element composition of inner ear lymphs in cats, lizards and skates determined by electron probe microanalysis of liquid samples. J Comp Physiol 126:1-14, 1978. ROMAND Raymond.: Survey of intracellular recording in the cochlear nucleus of the cat. Brain Res 148:43-65, Jun 1978.

RYUGO David K, Weinberger NM.: Differential plasticity of morphologically distinct neuronal populations in the medial geniculate body of the cat during pupillary conditioning. Behav Biol 22:275-301, 1978. Schuknecht Harold F, OTTE J, Kerr AG.: Ganglion cell populations in normal and pathological human cochleae. Implications for cochlear implantation. Laryngoscope 88:1231-46, Aug 1978.

STROME Marshall.: Symposium: Unusual case presentations; bronchogenic cysts: a case report. Otolaryngol 86: ORL755-ORL757, Sep-Oct 1978.

Smith Richard C (See WEBSTER RC).

WEBSTER Richard C, Smith RC, et. al.: A flap suspension technique in blepharoplasty on lower lids. J Dermatol Surg Oncol 4:159-65, Feb 1978.

WEBSTER Richard C, Benjamin BJ, Smith RC.: "How I do it" — Plastic surgery. Closure of circular defects. Laryngoscope 88:534-8, Mar 1978.

WEBSTER Richard C, Smith RC, Benjamin BJ.: "How I do it" — Plastic surgery. Treatment of trap door deformity. Laryngoscope 88:707-12, Apr 1978.

WEBSTER Richard C, Smith RC.: Cosmetic principles in surgery on the face. J Dermatol Surg Oncol 4:397-402, May 1978.

WEISS Thomas F, Altmann DW, Mulroy MJ.: Endolymphatic and intracellular resting potential in the alligator lizard cochlea. Pflugers Arch Europ J Physiol 373:77-84, 1978.

WEISS Thomas F, Peake WT, Ling A, Holton T.:
Which structures determine frequency selectivity
and tonotopic organization of vertebrate nerve fibers? Evidence from the alligator lizard. Chapter in:
Evoked Electrical Activity in the Auditory Nervous
System/ edited by R.F. Naunton and C. Fernandez.
— New York. Academic Press, 1978. pp. 91-112.

Weiss Thomas F (See PETERSON SK)

Wilson William R (See ZOLLER M). ZOLLER Michael, Goodman ML, Cummings CW.: Guidelines for prognosis in head and neck cancer with nodal metastasis. Laryngoscope 88:135-40, Jan

ZOLLER Michael, Wilson WR, Nadol JB Jr, Girard KF.: Detection of syphilitic hearing loss. Arch. Otolaryngol. 104:63-5, Feb 1978.

Department of Ophthalmology Surgical and Research Staffs

*ABELSON Mark B, Holly.: A tentative mechanism for inferior punctate keratopathy. Am J Ophthalmol 83:866-9, Jun 1977.

Abelson Mark B (See PAVAN-LANGSTON D). Aiello Lloyd M (See SIMMONS RJ, WAND M).

Albert Daniel M, LEHAV M.: Medulloepithelioma of the ciliary body in the goldfish. (Carassius auratus). Vet Pathol 15:208-12, Mar 1978.

Albert Daniel M, LEHAV M, Berkowitz S.: Primary mediastinal chorio-carcinoma in a male metastatic to the choroid. Albrecht von Graefes Arch Clin Ophthalmol 206:191-7, May 1978.

Albert Daniel M (See Craft JL, DRYJA TP, FELDON SE, PULIAFITO CA, SANG DL, THOMAS JV).

ALLEN Henry F.: Symposium: Postoperative endophthalmitis. Introduction: incidence and etiology. Prevention of postoperative endophthalmitis. Ophthalmol 85:317-9, 386-9, Apr 1978. Ariel Michael (See SANDBERG MA).

^{*}First Author in Capitals.

BELLOWS A Robert, Grant WM.: Cyclocryotherapy of chronic open-angle glaucoma in aphakic eyes. Am J Ophthalmol 85:615-21, May 1978.

Bellows A Robert (See CHYLACK LT)

Berson Eliot L, SHIH VE, Schmidt SY, Mandell R.: Ornithine keto-acid transaminase deficiency in gyrate atrophy of the choroid and retina. Am J Hum Genet 30:174-9, Mar 1978.

Berson Eliot L (See SANDBERG MA, SCHMIDT SY). BEYER Charles K.: President's address to the American Society of Ophthalmic Plastic and Reconstructive Surgery. Ophthalmic surg 9:25, Jun 1978.

BEYER Charles K.: Symposium: Blepharoplasty procedures. Introduction. Ophthalmol 85:702, Jul 1978. BEYER Charles K.: Repair of entropion and ectropion. Int Ophthalmol Clin 18:19-52, Fall 1978.

Beyer Charles K (See THOMAS JV).

BIENFANG Donald C.: The course of direct projections from the abducens nucleus to the contralateral medial rectus subdivision of the oculomotor nucleus in the cat. Brain Res 145:277-89, Apr 1978.

BIENFANG Donald C.: Extraocular muscle palsies; Nystagmus: Afflictions of the optic nerve and visual pathways. Sections in: *The Merck Manual of Diagnosis and Therapy*/ edited by Robert Berkow. — 13th ed. — Rahway, New Jersey. Merck, Sharp and Dohme Research Laboratories, 1977.

BIENFANG Donald C.: Control of gaze by brain stem neurons. Chapter in: *Developments in Neuro*science, vol. 1/ edited by R. Baker and A. Berthoz. — North Holland, Amsterdam. Elsevier, 1977. pp.

Blair Norman P (See THOMAS JV).

BOGER William P III, Puliafito CA, Steinert RF, Pavan-Langston D.: Long-term experience with timolol ophthalmic solution in patients with open-angle glaucoma. Ophthalmol 85:259-67, Mar 1978.

BOGER William P III, Steinert RF, Puliafito CA, Pavan-Langston D.: Clinical trial comparing timolol ophthalmic solution to pilo-carpine in open-angle glaucoma. Am J Ophthalmol 86:8-18, Jul 1978. Boger William P III (See EPSTEIN DL).

BORUCHOFF S Arthur, Donshik PC.: Degradation of "non-absorbable" sutures. Ophthalmic Surg 8:42-3, Oct 1977.

Boruchoff S Arthur (See COLLIN HB, DONSHIK PC). Brockhurst Robert J, MUKAI N, McMeel JW et. al.: Bilateral multi-centric retinoblastoma: a comparative study of two human cases with experimentally induced retinal neoplasm. Jpn J Ophthalmol 22:229-42, 1978.

Brockhurst Robert J (See GRAGOUDAS ES).

CAMPBELL David G, Shields MB, Smith TR.: The corneal endothelium and the spectrum of essential iris atrophy. Am J Ophthalmol 86:317-24, Sep 1978.

Campbell David G (See SHIELDS MB).

Cavanagh H Dwight (See COLLIN HB)

Cavanagh H Dwight (See COLLIN HB, DONSHIK PC).

CHANG Stanley, Dallow Richard L, Coleman DJ.: Ultrasonic evaluation of intraocular tumors. Chapter in: Ocular and Adnexal Tumors / edited by F.A. Jacobiec. — Birmingham. Aesculapius, 1978. pp. 281-310

CHENG Hong-Ming, Chylack LT Jr.: Factors affecting the rate of lactate production in rat lens. Ophthalmic Res 9:381-7, 1977.

CHENG Hong-Ming, Chylack LT Jr, Chien J.: Control of pyruvate kinase activity in the lens. Exp Eye Res 27:39-44, Jul 1978.

Cheng Hong-Ming (See CHYLACK LT Jr). Chien Julie (See CHENG H-M). Chu Wing (See LAMBERTS DW). CHYLACK Leo T Jr.: Classification of human cataracts. Arch Ophthalmol 96:888-92, May 1978. CHYLACK Leo T Jr, Bellows AR.: Molecular sieving in suprachoroidal fluid formation in man. Invest Ophthalmol Vis Sci 17:420-7, May 1978.

CHYLACK Leo T Jr, Cheng H-M.: Sugar metabolism in the crystalline lens. Surv Ophthalmol 23:26-34, Jul-Aug 1978.

CHYLACK Leo T Jr, Dueker DK, Pihlaja DJ.: Ocular manifestations of juvenile rheumatoid arthritis: pathology, fluorescein iris angiography and patient care patterns. Chapter in: *Juvenile Rheumatoid Arthritis*/ edited by John J. Miller III. — Littleton, Massachusetts. Publishing Sources Group, 1978. pp. 149-63.

Chylack Leo T Jr (See CHENG H-M, JEDZINIAK JA). Cogan David G, YEE RD, et. al.: Optic nerve compression due to aneurysmal bone cyst. Arch Ophthalmol 95:2176-79, Dec 1977.

Cogan David G, GUNKEL RD.: Colorimetry by a new principle. Arch Ophthalmol 96:331-4, Feb 1978. COGAN David G.: Ophthalmic pathology in America (1928-78). Invest Ophthalmol Vis Sci [Suppl]:75-80, Apr 1978.

COGAN David G.: Coloboma of optic nerve with overlay of peripapillary retina. Brit J Ophthalmol 62:347-50, Jun 1978.

Cogan David G, KUWABARA T.: The eye. Chapter in: Histology/ edited by L. Weiss and R.O. Greep. — 4th ed. — New York. McGraw-Hill, 1977. pp. 1119-64. COGAN David G, Kuwabara T.: Papilledema. Chapter in: The Ocular and Cerebrospinal Fluids, Fogarty International Center Symposium, 3-6 May 1976/ edited by L.Z. Bito, H. Davson, J.D. Fenstermacher. — London. Academic Press, 1977. pp. 419-33. Also in: Exp Eye Res [Suppl] 25:419-33,

COGAN David G.: Opsoclonus. Chapter in: Infections of the Nervous System/ edited by P.J. Vinken, G.W. Bruyn in collaboration with H.L. Klawans. — Amsterdam, New York. North-Holland Pub. Co., 1978. (Handbook of Clinical Neurology; vol. 34). pp. 611-7.

COLLIN H Barry, Donshik PC, Boruchoff SA, Foster CS, Cavanagh HD.: The fine structure of nuclear changes in superior limbic keratoconjunctivitis. Invest Ophthalmol Vis Sci 17:79-84, Jan 1978.

COLLIN H Barry, Boruchoff SA, Foster CS et. al.: Keratinization of the bulbar conjunctival epithelium in superior limbic keratoconjunctivitis in humans. An electron microscopic study. Acta Ophthalmol 56:531-43, Aug 1978.

Constable Ian J (See GRAGOUDAS ES).

Craft Joseph L, FULTON AB, Albert DM, Howard RO.: Human retinal dysplasia. Am J Ophthalmol 85:690-8, May 1978.

Craft Joseph L (See THOMAS JV)

DALLOW Richard L, Coleman DJ.: Ultrasonic evaluation of orbital disorders. Chapter in: Ocular and Adnexal Tumors/ edited by F.A. Jacobiec. — Birmingham. Aesculapius, 1978. pp. 311-40.

DALLOW Richard L, Weber AL.: Combined ultrasonography, computerized tomography and radiology in evaluation of orbital disease. Chapter in: Proceedings of the Third International Symposium on Orbital Disorders/edited by G. Bleeker. — Amsterdam. Dr. W. Junk, 1978.

Dallow Richard L (See CHANG S).

Dohlman Claes H, DOANE MG, Jensen AD.: Penetration routes of topically applied eye medications. Am J Ophthalmol 85:383-6, Mar 1978.

DONALDSON David D, Grant WM.: Stereoscopic comparator, with primary use for optic discs. Arch Ophthalmol 96:503-4, Mar 1978.

DONSHIK Peter C, Collin HB, Foster CS, Cavanaç HD, Boruchoff SA, Magee AJ.: Conjunctival resection treatment and ultrastructural histopathology c superior limbic keratoconjunctivitis. Am J Ophthal 85:101-10, Jan 1978.

Donshik Peter C (See BORUCHOFF SA, COLLIN I DRYJA Thaddeus P, Albert DM, et. al.: Presence c cysteinyldopa in the mature bovine eye. Exp Eye Res 25:259-64, Nov 1977.

DRYJA Thaddeus P, O'Neil-Dryja M, Albert DM, et al.: Demonstration of tyrosinase in the adult boving uveal tract and retinal pigment epithelium. Invest Ophthalmol Vis Sci 17:511-4, Jun 1978.

DUEKER David K.: Tonography. Chapter in: Glaucoma, Conceptions of a Disease; Pathogene: Diagnosis, Therapy/ edited by Klaus Heilmann an Kenneth T. Richardson. — Philadelphia. Saunders: 1978. pp. 234-7.

Dueker David K (See CHYLACK LT Jr, SIMMONS RJ, WAND M).

EPSTEIN David L, Boger WP III, Grant WM.: Phenylephrine provocative testing in the pigmenta dispersion syndrome. Am J Ophthalmol 85:43-50, Jan 1978.

EPSTEIN David L, Jedziniak JA, Grant WM.: Obstruction of aqueous outflow by lens particles a by heavy-molecular-weight soluble lens proteins. Invest Ophthalmol Vis Sci 17:272-7, Mar 1978.

EPSTEIN David L, Jedziniak JA, Grant WM.: Identication of heavy-molecular-weight soluble lens protein in aqueous humor in human phacolytic glaucoma. Invest Ophthalmol Vis Sci 17:398-402, May 1978.

EPSTEIN David L, Hashimoto J, Grant WM.: Serum obstruction of aqueous outflow in enucleated eyes Am J Ophthalmol 86:101-5, Jul 1978.

Epstein David L, FUKUI HN.: Effect of p-Chloromercuribenzene sulfonate on lens cation transport Ophthalmic Res 10:41-6, 1978.

FELDON Steven E, Albert DM, Smith TR, Sigelman J.: Clinical manifestations of brawney scleritis. Am Ophthalmol 85:781-7, Jun 1978.

Foster C Stephen, BOHIGAN F.: Effect of antibiotic corticosteroid combinations in the treatment of experimental pseudomonas keratitis. Invest Ophthalmol Vis Sci 16:553-6, Jun 1977.

FOSTER C Stephen, Pavan-Langston D.: Corneal wound healing and antiviral medication. Arch Ophthalmol 95:2062-7, Nov 1977.

Foster C Stephen, CANNON DJ.: Collagen crosslinking in keratoconus. Invest Ophthalmol Vis Sci 17:63-5. Jan 1978.

FOSTER C Stephen, Allansmith MR.: Chronic unilateral blepharoconjunctivitis caused by sebaceou carcinoma. Am J Ophthalmol 86:218-20, Aug 1978 Foster C Stephen, MOBILIA EF.: The management recurrent corneal erosions with ultra-thin lenses.

Contact and Intraocular Lens Med J 4:43, 1978. Foster C Stephen (See COLLIN HB, DONSHIK PC, KENYON KR, PAVAN-LANGSTON D).

FOULKS Gary N, Thoft RA, Friend J.: Effects of ultraviolet radiation on corneal epithelial metabolism. Invest Ophthalmol Vis Sci 17:694-7, Jul 1978.

Foulks Gary N (See PERRY HD).

Freeman H MacKenzie (See TOLENTINO FI). Gragoudas Evangelos S, SUIT HD, et. al.: Clinical experience and expectation with protons and heav ions. Int J Radiat Oncol Biol Phys 3:115-25, 1977. GRAGOUDAS Evangelos S, et. al.: Proton irradiation

of choroidal melanomas: preliminary results. Arch Ophthalmol 96:1583-91, Sep 1978.

agoudas Evangelos S (See SCHWARTZ PL, OMAS JV).

RANT W Morton.: Symposium: Tonography: past, essent and future. Ophthalmol 85:252-8, Mar 1978 ant W Morton (See BELLOWS AR, DONALDSON-), EPSTEIN DL, WAND M).

REINER Jack V, Covington HI, Allansmith MR.: Sure morphology of giant papillary conjunctivitis in ntact lens wearers. Am J Ophthalmol 85:242-52, pp 1978.

einer Jack V, ALLANSMITH MR, Baird RS.: Numof inflammatory cells in the normal conjunctiva. IJ Ophthalmol 86:250-9, Aug 1978.

giner Jack V, ALLANSMITH MR, Korb DR.: Giant billary conjunctivitis induced by hard or soft contilens wear: quantitative histology. Ophthalmol 766-88, Aug 1978.

OVE Arthur S Jr, Tadmore R, New PF, Momose : Orbital fracture evaluation by coronal computed nography. Am J Ophthalmol 85:679-85, May 1978. shimoto Joann (See EPSTEIN DL).

DZINIAK Judith A, et. al.: Quantitative verification he existence of high molecular weight protein gregates in the intact human lens by light scatter-spectroscopy. Invest Ophthalmol Vis Sci 17:51-7, pp. 1978.

DZINIAK Judith A, Baram H, Chylack LT Jr.: The lecular distribution, weight determination and incentration variation of the total water soluble pteins of the human lens. Exp Eye Res 26:277-88, r 1978.

Idziniak Judith A (See EPSTEIN DL)

HNSON Carl Cordes.: Epicanthus and epiblearon. Arch Ophthalmol 96:1030-3, Jun 1978.

NYON Kenneth R, Foster CS.: Thermal denaturan of donor cornea: an unusual complication of netrating keratoplasty. Ophthalmic Surg 9.47-51, 78.

Il Mohandas M, et. al.: Prevalence of senile catat, diabetic retinopathy, senile macular degeneran and open-angle glaucoma in the Framingham Study. Am J Ophthalmol 85:28-34, Jan 1978.

MBERTS David W, Pavan-Langston D, Chu W.: linical study of slow-releasing artificial tears. hthalmol 85:794-800, Aug 1978.

mberts David W (See MILLER D).

bus Jaime V (See SCHWARTZ PL, THOMAS JV). E James R, Refojo MF, Leong FL.: Tinted hydrogel ses for cosmetic and optical problems. Contact d Intraocular Lens Med J 3:22-6, 1977.

Hsiao-Su (See TOLENTINO FI).

MEEL J Wallace, Murphy PL et. al.: Symposium: stoperative endophthalmitis; acute and subacute ections following scleral buckling operations. hthalmol 85:341-9, Apr 1978.

Meel J Wallace (See Brockhurst RJ, VALONE JA). LLER David, O'Connor P, Williams J.: Use of Naaluronate during intraocular lens implantation in bbits. Ophthalmic Surg 8:58-61, Dec 1977.

LLER David, Lazenby GW.: Glare sensitivity in rected aphakes. Ophthalmic Surg 8:54-7, Dec 77.

LLER David, Manning W.: Alteration in curvature bovine cornea using heated rings. Invest phthalmol Vis Sci [Suppl]:297, Apr 1978.

ller David, MANNING W.: Increasing the range of skeratometer. Surv Ophthalmol 22:13-4, May-Jun 78.

LLER David, Lamberts DW, Perry HD.: An illunated grid for macular testing. Arch Ophthalmoli:901-2, May 1978.

MILLER David, Bell DM.: Monitoring corneal wound strength non-invasively. Acta Ophthalmol 56:544-50, Aug 1978.

MILLER David.: Physical optics and the eye. Chapter 31 in: Clinical Ophthalmology. Volume 1. Strabisums, Refraction, the Lens/ edited by Thomas D. Duane. — Hagerstown, Maryland. Harper and Row, 1976. 19 p.

Murphy Patrick L (See McMEEL JW).

PAVAN-LANGSTON Deborah.: Herpes simplex and herpes zoster keratouveitis diagnosis and management. Bull NY Acad Med 53:731-58, Oct 1977.

PAVAN-LANGSTON Deborah, Foster CS.: Trifluorothymidine and idoxuridine therapy of ocular herpes. Am J Ophthalmol 84:818-25, Dec 1977.

PAVAN-LANGSTON Deborah, Abelson MB.: Glucocorticoid therapy in ocular herpes simplex. II. Advantages. Surv Ophthalmol 23:35, 43-7, Jul-Aug 1978

Pavan-Langston Deborah (See BOGER WP III, FOSTER CS, LAMBERTS DW, PULIAFITO CA).

PERRY Henry D, Thoft RA, Tolentino FI, Foulks GN.: Corneal complications after closed vitrectomy through the pars plana. Arch Ophthalmol 96:1401-3, Aug 1978.

Perry Henry D (See MILLER D).

PETERSON Robert A, Robb RM.: The natural course of congenital obstruction of the nasolacrimal duct. J Pediatric Ophthalmol 15:246-50, Jul-Aug 1978.

Pihlaja Donovan J (See CHYLACK LT).

PRUETT Ronald C.: The fishmouth phenomenon. I. Clinical characteristics and surgical options. II. Wedge scleral buckling. Arch Ophthalmol 95: 1777-81, 1782-87, Oct 1977.

PRUETT Ronald C, Schwartz PL.: Occult retinitis pigmentosa simulating central nervous system disease. Ann Ophthalmol 10:919-26, Jul 1978. PULIAFITO Carmen A, Albert Daniel M, Pavan-Langston D, Robinson NL, Lin TS, Ward DC, Prusoff WA.: Therapy of experimental herpes simplex keratitis in rabbits with 5-lodo-5'-amino-2', 5' dideoxyuridine (39882). Proc Soc Exp Biol Med 156:92-6, Oct 1977.

Puliafito CA (See BOGER WP III).

RIVA Charles E, Feke GT, Ben-Sira I.: Fluorescein dye-dilution technique and retinal circulation. Am J Physiol 234:H315-H322, Mar 1978.

Riva Charles E, FEKE GT.: Laser Doppler measurements of blood velocity in human retinal vessels. J Opt Soc Am 68:526-31, Apr 1978.

Robb Richard M, SHIV VE et. al.: Sulfide oxidase deficiency. Biochemical and clinical investigations of a hereditary metabolic disorder in sulfite metabolism. N Engl J Med 297:1022-28, 10 Nov 1977.

ROBB Richard M.: Histochemical demonstration of cyclic guanosine 3′, 5′-monophosphate phosphodiesterase activity in retinal photoreceptor outer segments. Invest Ophthalmol Vis Sci 17:476-80, May 1978.

ROBB Richard M, Silver J, Sullivan RT.: Ocular retardation (or) in the mouse. Invest Ophthalmol Vis Sci 17:468-73, May 1978.

ROBB Richard M, Marchevsky A.: Pathology of the lens in Down's syndrome. Arch Ophthalmol 96:1039-42, Jun 1978.

Robb Richard M (See PETERSON RA, WALTON DS)

Rosen Jo Bernice (See SANDBERG MA). SANDBERG Michael A, Berson EL, Ariel M.: Visually evoked response testing with a stimulator ophthalmoscope: macular scars, hereditary macular degenerations and retinitis pigmentosa. Arch Ophthalmol 95:1805-8, Oct 1977. SANDBERG Michael A, Ariel M.: A hand-held, two channel stimulator ophthalmoscope. Arch Ophthalmol 95:1881-2, Oct 1977.

SANDBERG Michael A, Rosen JB, Berson EL.: Cone and rod function in vitamin A deficiency with chronic alcoholism and in retinitis pigmentosa. Am J Ophthalmol 84:658-65. Nov 1977.

SANG Delia, Albert DM, et. al.: Nevus of Ota with contralateral cerebral melanoma. Arch Ophthalmol 95:1820-4, Oct 1977.

SANG Delia, Albert DM.: Recent advances in the study of retinoblastoma. Chapter in: *Intraocular Tumors*/ edited by Gholam A. Peyman, David J. Apple, Donald R. Sanders. — New York. Appleton-Century-Crofts, 1977. pp. 285-329.

Schepens Charles L, DUCREY N et. al.: Clinical trials with the equator-plus camera. Am J Ophthalmol 84:840-6, Dec 1977.

Schepens Charles L (See TOLENTINO FI).

SCHMIDT Susan Y.: Taurine fluxes in isolated cat and rat retinas: effects of illumination. Exp Eye Res 26:529-35, May 1978.

SCHMIDT Susan Y, Berson EL.: Taurine uptake in isolated retinas of normal rats and rats with hereditary retinal degeneration. Exp Eye Res 27:191-8, Aug 1978.

SCHMIDT Susan Y, Berson EL.: Taurine in retinal degenerations. Chapter in: *Taurine in Neurological Disorders*/ edited by R. Huxtable and A. Barbeau. — New York. Raven Press, 1978. pp. 281-7. Schmidt Susan Y (See BERSON EL).

SCHWARTZ Peter L, Gragoudas ES, Lapus JV.: Peripapillary subretinal neovascularization in chronic uveitis. Arch Ophthalmol 96:836-8, May

Schwartz Peter L (See PRUETT RC, THOMAS JV). SHIELDS M Bruce, Simmons RJ, Campbell DG.: The essential iris atrophies. Am J Ophthalmol 85:749-59, Jun 1978.

Shields M Bruce (See CAMPBELL DG).

SIMMONS Richard J.: Symposium: Glaucoma; progress in glaucoma. Ophthalmol 85:207-8, Mar 1978. SIMMONS Richard J.: Malignant glaucoma. Chapter in: Glaucoma, Conceptions of a Disease; Pathogenesis, Diagnosis, Therapy/edited by Klaus Heilmann and Kenneth T. Richardson. — Philadelphia.

Saunders, 1978. pp. 343-7.
SIMMONS Richard J, Dueker DD, Kimbrough RL, Aiello DM.: Goniophotocoagulation for neovascular glaucoma. Chapter in: *Highlights of Ophthalmology*/ Benjamin F. Boyd. — 20th anniversary edition. — 1978-79. pp. 507-14.

Simmons Richard J (See SHIELDS MB).

Smith Taylor R (See CAMPBELL DG, FELDON SE, YOSHIZUMI MO).

SNYDER Charles.: A look at George Frick's *Treatise* on *Diseases of the Eye*. Actes. XXV Cong Internat Histoire de la Medicine, Quebec, 1976. 3:1289-1300, 1978.

Steinert Roger F (See BOGER WP III).

Thoft Richard A, FRIEND J.: Functional competence of regenerating ocular surface epithelium. Invest Ophthalmol Vis Sci 17:134-9, Feb 1978.

THOFT Richard A.: Current concepts in ophthal-mology: corneal disease. New Engl J Med 298:1239-41, 1 Jun 1978.

Thoft Richard A (See FOULKS GN, PERRY HD) THOMAS John V, Yoshizumi MO, Beyer CK, Craft JL, Albert DM.: Ocular manifestations of focal dermal hypoplasia syndrome. Arch Ophthalmol 95:1997-2001, Nov 1977.

THOMAS John V, Gragoudas ES, Blair NP, Lapus JV.: Correlation of epinepherine use and macular edema en aphakic glaucomatous eyes. Arch Ophthalmol 96:625-8, Apr 1978

THOMAS John V, Schwartz PL, Gragoudas ES.: Von Hippel's disease in association with von Recklinghausen's neurofibromatosis. Brit J Ophthalmol 62:604-8, Sep 1978.

Thomas John V (See YOSHIZUMI MO).

TOLENTINO Felipe I, Refojo MF, Liu HS, Schepens CL, Freeman HM.: Intravitreous silicone balloon: an experimental study. Ophthalmic Surg 9:73-80, 1978.

Choroidal folds. Am J Ophthalmol 86:380-7, Sep 1978

adolescent-onset proliferative diabetic retinopathy. Arch Ophthalmol 96:1349-53, Aug 1978.

VINGER Paul F, Tolpin DW.: Racket sports, an ocular hazard. JAMA 239:2575-7, 16 Jun 1978

WALTON David S, Robb RM, Crocker AC.: Ocular manifestations of group A Niemann-Pick

WAND Martin, Grant WM.: Thymoxamine test Differentiating angle-closure glaucoma from openangle glaucoma with narrow angles. Arch Ophthalmol 96:1009-11, Jun 1978

fects of panretinal photocoagulation of rubeosis iridis, angle neovascularization and neovascular glaucoma. Am J Ophthalmol 86:332-9, Sep 1978

WRAY Shirley.: Neuro-ophthalmic manifestations of pituitary and parasellar lesions. Clin Neurosurg

fects in retrobulbar neuritis. Am J Ophthalmol 86:193-201, Aug 1978.

WRAY Shirley .: Neurologic and ophthalmic manifestations of pineal tumors. Chapter in: Pineal Tumors/ edited by Henry H. Schmidek. — New York. Masson,

YOSHIZUMI Marc O, Thomas JV, Smith, TR. Glaucoma-inducing mechanisms in eyes with retinoblastoma. Arch Ophthalmol 96: 105-10, Jan

Yoshizumi Marc O (See THOMAS JV).

Department of Anesthesiology Surgical and Research Staffs

*DONLON John V, Nozik D.: Anesthesia for head and neck surgery. Chapter in: Clinical Anesthesia Procedures of the Massachusetts General Hospital, Department of Anesthesia, Massachusetts General Hospital, Harvard Medical School/ edited by Philip W. Lebowitz. — Boston, Little, Brown, 1978, pp.

KIM Jin W, Smith PH.: Cardiac dysrhythmia after intravenous glycopyrrolate in anesthetized man. Anesthesiology Rev 5:30-2, Jun 1978

McGOLDRICK Katryn E.: Statistics and satire: instances of incorrect and specious medical reporting Medical Women's International Association Abstracts of XVI International Congress. p. 79, Aug-Sep 1978. Smith Porter H (See KIM JW).

Tolpin Daniel W (See VINGER PF).

Tolentino Felipe I (See PERRY HD)

Trempe Clement L, CANGEMI FE, Walsh JB.

VALONE James A, McMeel JW.: Severe

disease. Am J Ophthalmol 85:174-80, Feb 1978.

WAND Martin, Dueker DK, Aiello LM, Grant WM.: Ef-

24:86-117, 1977.

Wray Shirley, GRIFFIN JF.: Acquired color vision de-

1977. pp. 21-59.

*KIDO Daniel K.: Metrizamide epidurography in dogs. Radiol 128:119-22, 1978.

KIDO Daniel K, et. al.: Comparative sensitivity of computed tomograms, radiographs and radionuclide bone scans in detecting metastatic calvarial lesions. Radiol 128:371-75, Aug 1978.

Kido Daniel K, LEMAY M.: Asymmetries of the cerebral hemispheres on computed tomograms. J Comput Assist Tomog 2:471-6, Sep 1978

MacMillan Alexander S Jr (See MOMOSE KJ).

MOMOSE K Jack, Kjellberg RN, Kliman B.: Quantitative analysis of the pituitary fossa and gland in Cushing's disease. Acta Radiol (Suppl) 347:537-52, 1976.

MOMOSE K Jack, Weber AL, Goodman ML.: Radiological and pathological findings of esthesioneuroblastoma. Adv Oto-Rhino-Laryngol 24:166-9, 1978.

MOMOSE K Jack, MacMillan AS Jr.: Roentgenologic investigations of the larynx and trachea. Radiol Clin North Ăm 16:321-41, Aug 1978.

Momose K Jack (See GROVE AS Jr).

Weber Alfred L, ISLER RJ.: X-ray of the month: pneumocephalus from paranasal sinus carcinoma. Ann Otol Rhinol Laryngol 87:142-3, Jan-Feb 1978.

WEBER Alfred L, Montgomery WW.: X-ray of the month: neurolemmoma of maxillary antrum. Ann Otol Rhinol Laryngol 87:436-7, May-Jun 1978. Weber Alfred L, KUSHNER DC.: Sialography of salivary gland tumors with fluoroscopy and tomography. Am J Roentgenol 130:941-4, May 1978. Weber Alfred L, SPRINCE NL, et. al.: Reversible respiratory disease in beryllium workers. Am Rev Respir Dis 117:1011, 1978.

WEBER Alfred L, Grillo HC.: Tracheal tumors: radiological, clinical and pathological evaluation. Adv Oto-Rhino-Laryngol 24:170-6, 1978.

WEBER Alfred L.: Guest editor: Symposium on the larynx and trachea. Radiol Clin N Am 16: Aug 1978. WEBER Alfred L, Grillo HC.: Tracheal tumors: a radiological, clinical and pathological evaluation of 84 cases. Trachael stenosis: an analysis of 151 cases. Radiol Clin N Am 16:227-46, 291-308, Aug

WEBER Alfred L, Goodman ML, Montgomery WW, et. al.: Cartilaginous tumors of the larynx and trachea. Radiol Clin N Am 16:261-71, Aug 1978. WEBER Alfred L, et. al.: Malignant tumors of the sinuses: radiological evaluation including computerized tomographic scanning with clinical and pathological correlation. In: *Proceedings of 11th* Symposium Neuroradiologicum/ edited by Sigurd Wende. — Berlin. Springer-Verlag, 1978. pp Weber Alfred L (See MOMOSE KJ, DALLOW RL).

Department of Nursing

*CULLIN Irene C.: Disturbances in visual perception. Chapter in: Medical-Surgical Nursing – A Conceptual Approach/ edited by D. Jones, C. Dunbar, M. Jirovec. — New York. McGraw Hill, 1978. pp.

DUPONT Jeanne: The turning point. Nursing 78, 8:96, Jan. 1978.

PELHAM Valerie, Shanahan M.: Coming out of the process. Qual Rev Bull 4:8-10, May 1978

Administration Department

*HOLZER James F.: Is mental health advocacy under attack: 504 challenges hospitals care of the deaf. Medicolegal News 6:5, 6, Fall 1978.

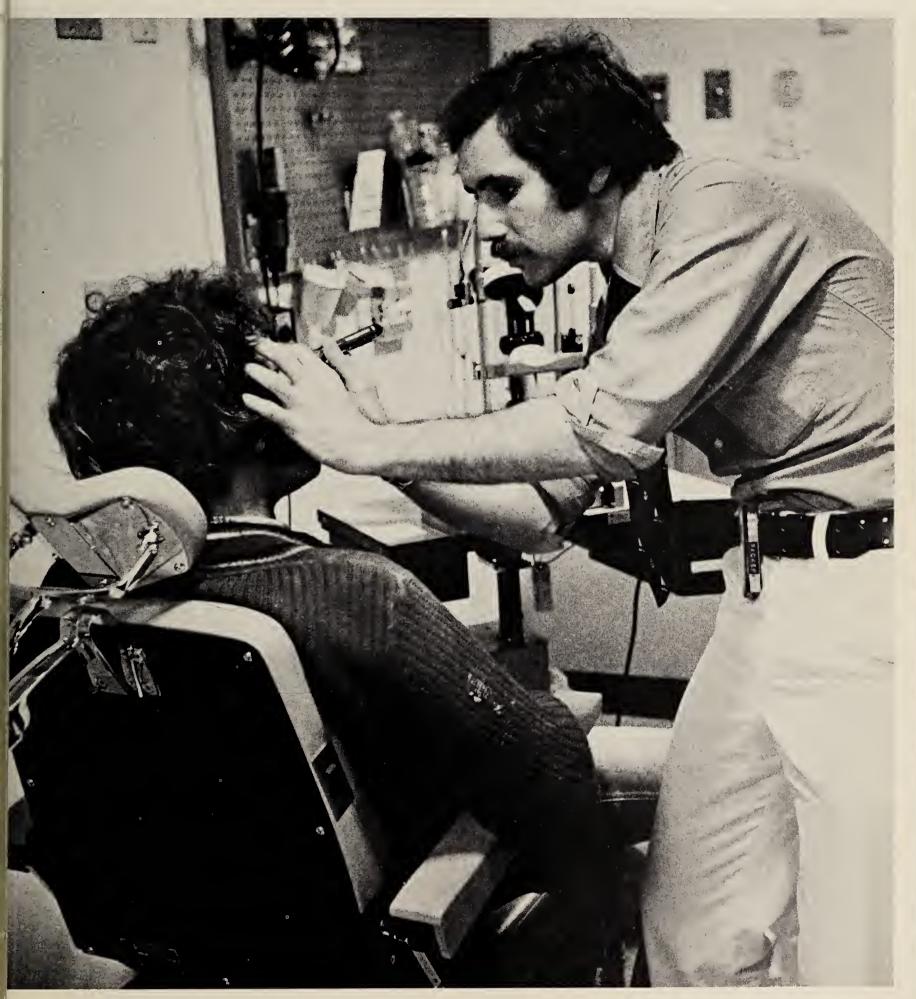
Social Service Department

*SHIPSEY Madeline.: Social and emotional factors i glaucoma care. Sight Sav Rev 47:115-20, Fall 1977 SHIPSEY Madeline.: Sight on social work. The soci worker's involvement with the patient undergoing cataract surgery. Qual Rev Bull 4:5-7, May 1978.

^{*}First Author in Capitals.

Department of Radiology Surgical and Research Staffs

^{*}First Author in Capitals.



Over 25 Years of Service

Dorothy Campanella Antoinétte Christie Emilie Farnsworth, A.C.S.W. Dorothy Landers Roger N. Lane Rita Lovely Philip Maguire Gerald Maloney Robert McLaughlin Jessie O. Jones Lloyd Ramsdell Hattie Roberts Madeline Shipsey, A.C.S.W. Charles J. Snyder Ann E. Stromberg

25 Years of Service Barbara Smith, R.N.

20 Years of Service

Alan H. Crist Mary Long Winifred Maher Rachel Nadler

15 Years of Service

Mary Lee Barnes Lola Blanton Herbert I. Kirshnit Eddie Lenard Arthur Shorter Roetta Sykes, L.P.N. Ethel Weich

10 Years of Service

Louise B. Adams Henry F. Allen, M.D. Eliot L. Berson, M.D. Mary Demirjian, R.N. Martha C. Fraser Sylvia Frazer Eddie Gadson, Jr. Patricia A. Geary Frances Gibbon's Hyacinth Gillispie Max L. Goodman, M.D. Jeanne Hammond Margaret G. Heasley Robert H. Hock Virginia Holley Janie Howard Louise Lusby Hope E. Matson, R.N. Audrey Melanson Kristina Nicklas, L.P.N. Constance Quilter Maria Sangiolo Ismail Sensel, M.D. Jane Taub, R.N. Carole Tucker Anne C. Volk

5 Years of Service

Gerald Antonelli Andrew Baker, Esq. Judith Bennett, R.N. James S. Bestman Jean Booth Yacinta Borges Ben Bramson Margaret C. Britva

Barbara Bushey, R.N. Mary Lou Butler, R.N. Frances Campion, R.N. Oscar J. Cantini Susan P. Caputo Doreen G. Clunes Angela D'Avolio Mary Ellen Doyle Phyllis A. Dunne, R.T. David Epstein, M.D. Catherine G. Flynn Kathleen Folino John D. Franklin Victor H. Franklin Bertha Garber Laura Garvin Gabriel Goon Marie Gracisse Arthur S. Grove, Jr., M.D. Arthur Guild Alfred P. Hallfelder Kathleen Hoffman, R.N. Rosana Honore Barbara H. Houtman, A.R.T. Frances Hurley, A.C.S.W. Beryl C. Jackson Yolande Jean-Baptiste Susan O. Karlson Fitna Kharajian Joan M. Korb Teresa Kunzwiler, R.N. Jean Y. Lee, R.N. Alice Letren Hilary Lewis Carol Madsen, R.N. Myrtle I. Malloy Gail A. McAvoy, L.P.N. John McCabe Francis X. McCrossan Maryellen McEvoy Gerald T. McGrath Helen Norian Helen Oliver Josephine M. Otis Valerie M. Pelham, R.N. Maryann Piotrowicz Susan E. Prendergast Kathleen A. Provenzano Anthony P. Reis Cardelena Robinson Esthela Rojas Judith Ruth, L.P.N. Andre S. Semper Porter H. Smith, M.D. David I. Sonn, M.D. Frank J. Stefanov, Jr. David A. Steffens Frances Tripp Catherine Twomey, R.N. Ollie R. Villard Kathryn E. Watson Dorrien Alfred L. Weber, M.D. Naomi Williams

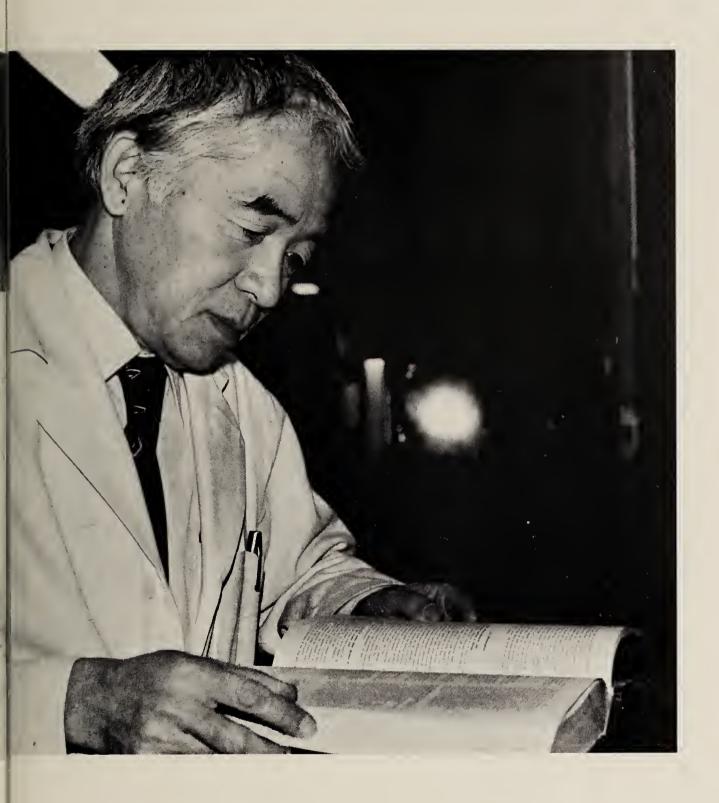
Sandra A. Winters

Over 100 hours

Dorothy Bowman Christa Coggins Joan Drinker Wendy Ecker Phyllis Fernald Robert Firester Suzanne Frederick Helen Foster Penelope Ghartey Jeffrey Glen Ruth Goldenberg Eve Herbert Marion Kirshen Alice Silverman Karina Stumper Laine E. Wentoff

Honor Roll Ruth Adair Emily Allen Charlotte Barnaby Merle Barry Elizabeth Carsley Susanne Clorite Leah Cook Barbara Cunningham Winifred Cunningham Jacqueline Daly Barbara Dawson Geraldine DiLorenzo Ondine Frohbera Mary Higgins Rose Hurley Marjorie Kent Helen King Florence Knight Suzanne Kurtz Eleanor Lowell Betty Loewenberg Stephanie Lombardo Marjorie Lyman Arline Margulies Helen McEvoy Phyllis Meisel Donna Montgomery Patricia Okamura Mary Perez Enid Phillips Florence Reid Ethel Rosenthal Anne Schuknecht Ruth Shapiro Jean Smith Mildred Sullivan Priscilla Summers Kathryn Van Dernet







FORM OF BEQUEST

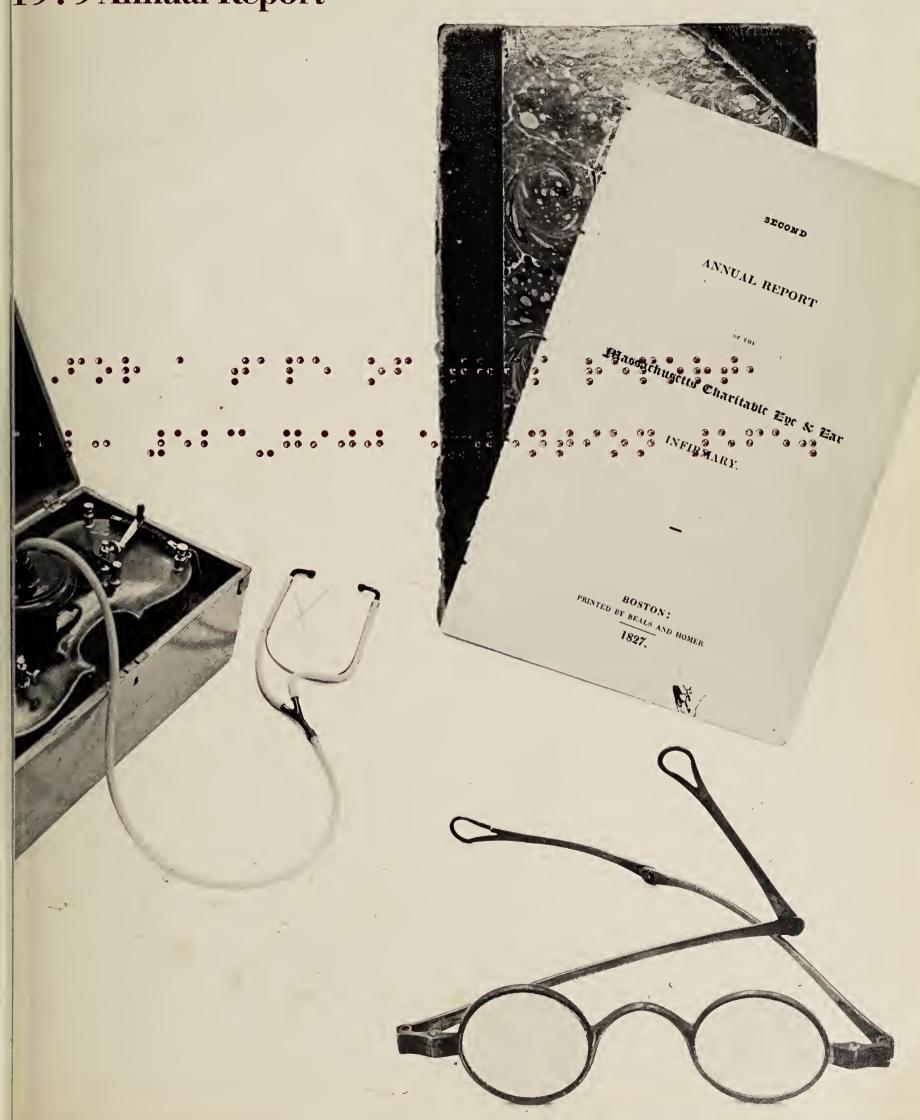
io the Massach is its Liye and Ear firm by a charitable organization organization organization on the laws of Massachusetts, distuated at Boston Massachusetts, findars

chusetts Eye and Ear Infirmary
Charles Street
Louton, Lassachusetts 02114



MASSACHUSETTS EYE AND EAR INFIRMARY 243 Charles Street, Boston, MA 02114

Massachusetts Eye & Ear Infirmary 1979 Annual Report



Contents

Cover: In 1828, the Infirmary almost went bankrupt—they were overdrawn by \$250! The Board of Managers then decided to have their first fund drive and issued the first public Annual Report. The public responded with the \$400 necessary to see the Infirmary through 1829.

Braille message means: "For tape of this report, call 523-7900, ex. 565."

- 1 Introduction
- 2 Report of the Chairman and President
- 5 Report of the Director
- 9 Report of the Chief of Otolaryngology
- 13 Report of the Chief of Ophthalmology
- 17 Financial Statements
- 19 Comparative Statistics
- 20 Committees
- 21 Administration
- 22 Ladies Visiting Committee
- 23 Mass. Eye and Ear Medical Staff
- 28 Research Staff
- 29 Harvard Medical School Faculty
- 32 Publications
- 39 Employee Service Award Recipients
- 40 Volunteers

"There are periods in the history of every individual, and every institution, in which it is wise to pause for a moment, and examine the landmark that designate its points of progress; that we may gather up a lesson of wisdom from the past, and be stimulated to new exertions for the future."

Address at the Dedication of the new building of the Massachusetts Eye and Ear Infirmary. July 3, 1850. By Edward Reynolds, MD, co-founder.

Boston's celebration of 350 years of accomplishments is also a celebration of a quality of life that will ensure a confident future. Mass. Eve and Ear took a similar look into the past in 1979 to celebrate the completion of a construction phase that has readied the hospital for the specialty care needs of today's and tomorrow's patients.



Introduction

Jubilee 350 is showing that Boston has much to offer in terms of heritage, diversity of people, and commercial vitality today. While we are gathering statistics and taking account of last year's highlights to present on these pages, Boston is taking another look in the mirror of the past. What's reflected also is a clear picture of a very animated city.

If anything can be said to epitomize Massachusetts Eye and Ear Infirmary in 1979, it's that same concept of reflection. In December 1979, we celebrated Dedication Day to honor all who had supported the Infirmary through the past ten years' expansion and renovation efforts. We glanced back through our proud history of 155 years, conjuring up the past with old records and photographs. The recently completed Mass. Eye and Ear building reflects the evolution of this past into a facility with a future—one that will accommodate its high quality, specialized care for diseases and disorders of the eyes, ear, nose and throat into the twenty-first century.

Annual Report 1979 is Mass. Eye and Ear today, a hospital whose clinical and research facilities are still expanding to accommodate and improve care for the increasing thousands of patients who come here yearly. With support similar to that received in the past, Mass. Eye and Ear will continue to evolve at the forefront of its specialty care.

This is a reflection of Massachusetts Eye and Ear Infirmary 1979. It is a look inside a Harvard-affiliated teaching facility that has continually moved forward with the times, sometimes ahead of the times, and will continue to do so.



Dedication Day was a daylong tribute to the many who had participated in some way in the expansion efforts. The photographs on the pages of this report reflect patient care at Mass. Eye and Ear today —a far cry from that of the past—and a glimmer of progress yet to be made.

Report of the Chairman and President



Melville Chapin, Chairman

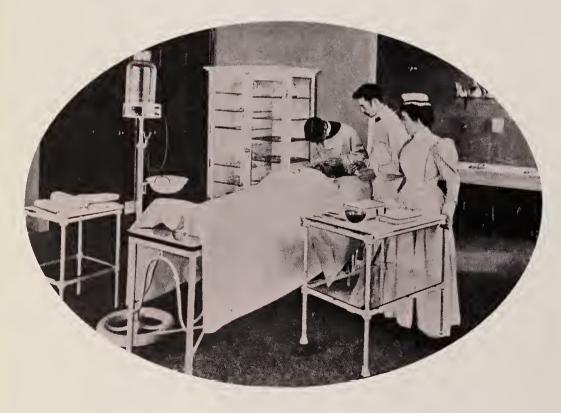


Robert C. Jordan, President

Last year, approximately 125,000 people made use of Mass. Eye and Ear's inpatient, outpatient, or Emergency Ward facilities. This is up several thousand from 1978. We have every reason to believe that with the hospital's expanded ability to handle even more patients on an outpatient basis, thousands more in the future will be able to receive the specialized care their problems require.

As a Harvard-affiliated teaching hospital, Mass. Eye and Ear and its staff are continually aware of the responsibility of maintaining the best standards possible. We commend both the Medical and Administrative staffs for their efforts in maintaining our standards, and at rates that in fact are well below the allowance of the government.

The revision of the trustees' bylaws was completed this year. The Bylaws Committee of the Corporation chaired by Mr. August Meyer reviewed and updated the existing bylaws in compliance with the Joint Commission on Accreditation of Hospitals' latest Governing Body standards. For example, under the new Bylaws, the Executive Committee shall serve as a joint forum for the governing body, the hospital's administration, and the medical staff to exchange ideas and discuss problems concerning the operation of the hospital. One function of this Committee is to review reports generated by the professional services review program; and if necessary, they then make recommendations to the Board of Managers.

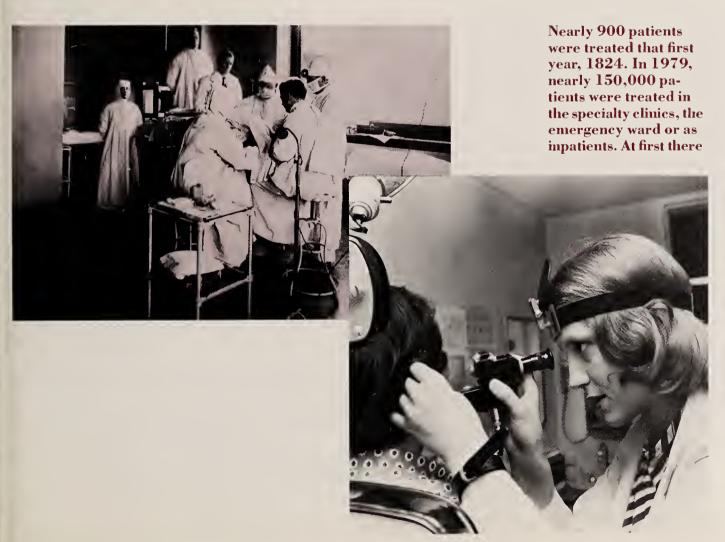


Impetus for the founding of the Infirmary came from Dr. Edward Reynolds who, upon his return to Boston in 1818 after training at the London Eye Infirmary, found his father blinded by cataracts in both eyes. "I went into my closet and offered a prayer to the deity for success, took a glass of sherry, and went ahead to do my best," by that meaning the surgical removal of his father's clouded lenses. This was a new operation at the time in Boston and in fact resulted in successful restoration of

his father's sight. Word spread of his achievement and, due to the numbers who sought him out, it soon became apparent to him and Dr. John Jeffries that a Boston Eye Infirmary was needed for the poor who were "peculiarly liable to these diseases."

Negotiations for the Charles Street Garage continued throughout 1979 and came to fruition by the beginning of 1980. The four-story parking garage at 142 Charles Street in Boston has been, and will continue at this time to be, utilized as leased parking for Beacon Hill residents. Mass. Eye and Ear had been considering a proposal to join with the Charles Circle Associates in developing the garage complex and our adjacent nurses' residence building, but this was curtailed after careful analysis of the plan by hospital staff, developers and residents of the Beacon Hill community. It is expected that purchases such as the Charles Street Garage will assure us increased flexibility in planning for future needs of the Infirmary.

It is with sorrow that we report the death of three members of the Corporation in 1979: in January, Horace W. Frost, longtime Treasurer, Manager and member of the Corporation since 1940; Frederic Winthrop, Sr., a member since 1943, in February; and the Honorable Leverett Saltonstall, a member of the corporation since 1925, in June. Each of these men made contributions that will be long remembered. In early 1980, Mrs. Richard Cary Curtis, member of the Corporation for 35 years, died, as did Mrs. Varaztad Kazanjian, a former member for 20 years. We were also saddened by the death in February 1980 of our dear friend and colleague William H. Claffin III. Bill had been a Trustee and Manager since 1947. During his term he was elected President and then Treasurer, offices in which he served us well. He will be sorely missed.



were just two clinics one for eye problems and one for the ear. Now specialty services include audiology, low vision, fluorescein, electroretinography, otoneurology, neuroophthalmology, electronystagmography, ocular motility, auditory evoked response, and ultrasonography; and there are separate clinics for Cornea, Retina, Glaucoma, Contact Lens, Pediatrics, Plastic Surgery, and Tumors.

We closed the year 1979 remembering the role played by great people and friends such as these at the Infirmary. Coordinating the annual meetings of the Corporation and the medical staff with Dedication Day events, we honored those who had generously supported our expansion and renovation efforts in the past ten years. It was an exciting day for us and we think for many others in attendance as we relived the years that carried the Eye and Ear from its previously cramped archaic quarters to the modern facility it is today. We find ourselves repeating this again and again, but it truly was an architectural feat. There was little or no interruption of patient services and the new building literally straddles the old.

We are proud to be associated with an institution such as the Massachusetts Eye and Ear Infirmary. It is filled with talented people who always seem animated by new ideas. We are committed to assisting the continued development of its facilities, that these ideas may be nurtured. Through teaching and research and its subsequent application, we feel certain that medical treatment for diseases and disorders of the eye, ear, nose and throat will continue to improve in the hands of such competent individuals.

Molail Chapte Melvin Chapin,

Chairman

Robert Jalan Robert C. Jordan,



Annie Sullivan, later to gain fame as the teacher/companion of Helen Keller, was blind by her eighth birthday, a victim of the dreaded infection, trachoma. Though orphaned and judged to be wild and unteachable, she heard

of the Massachusetts Charitable Eye and Ear Infirmary and goaded an old man to take her there in 1881. She became the second patient on whom a new surgical procedure was tried, and the first to have it succeed. In her own words, she attributed her good fortune to "the wonderful Massachusetts Eye and Ear Infirmary."

Trachoma is no longer the feared disease in the U.S. as it was in those days. (It is still prevalent in the rest of the world, but is treatable with drugs.) Today the leading causes of new blindness are glaucoma, diabetic retinopathy and cataracts.

Inroads have been made and are continuing to be made in these areas.

Report of the Director



Charles T. Wood, Director

Innovation has long been a driving force in maintaining momentum in medicine and its provision to those in need of care. The people working within the hospital and the people in society at large all contribute in some way as actors, reactors or interactors in this forward progression. Changes and improvements are often part of a diffuse, complex and sometimes anonymous process, especially within an institution such as Mass. Eye and Ear which is world-renowned for its excellence and expertise. Innovation here is often the product of many individuals carrying on with daily duties. As health care providers we are equally dependent, however, on reading the barometer of our public, the actual and potential patients, to service their needs in a realistic manner.

No one truly expects an "invisible hand" to pull this country out of the economic mire to fulfill our needs, yet I sense the prevailing mood of the nation is ripe for innovative solutions. We have all heard and may share the concerns voiced about the current health care system and we must all work toward doing something about these concerns.

I suspect health care will soon either experience a barrage of bureaucratic controls, regulations and restrictions that I believe will drastically decrease the level and quality of health care delivery in our country, or—more optimistically, we will develop exciting new systems of health care delivery and financing that will be unique throughout the world.



An example of a technological advance conceived by Infirmary physicians is the "upside-down" operating table, pictured above. The table is the only one of its kind in the world and is used for repairing a giant retinal tear—usually the result of a blow to the eye, which causes the retina to tear and fold over onto itself.

The table is swiveled upside-down at a crucial point in the operation to allow gravity to unfold the delicate retina. The surgeon can then attempt to reattach the tissue and, if successful, restore the patient's sight.

It seems to me that we all need to be better aware of the real issues, the quandaries faced today in trying to deliver high quality, equitable and cost-effective health care. In order to meet the challenges of health care in the 80s, we as health care providers have the obligation to take the time to explain these issues to the public and to use as much valuable input from other professionals as we possibly can to develop alternatives to our present system.

I don't make snap decisions on a given subject without first studying the issues and I don't expect the public to see clear through the complexities of health care delivery without explanation, either. It is an informed public who can make meaningful decisions and influence the direction health care takes via their legislators. Health care policies affect everyone and everyone should have at least the access to more information.

My personal challenge then is to contribute to this growth in public awareness. Our prime objective at the Massachusetts Eye and Ear has been working to tailor our facilities to the growing and increasingly special needs of our patient population. After ten years of carefully planned construction, I can this year proudly report that in June the finishing touch to the exterior building was completed—letters spelling out Massachusetts Eye and Ear Infirmary were erected at the sixth floor level on both the Fruit Street and Charles Street facades. Inside, there are clinical and research areas yet to be completed or expanded, but for the most part, I feel energy can now be directed to the challenges outlined above.



The new 1899 building at 243 Charles Street was the best facility of its kind anywhere when it was built, but by the 1960s, Mass. Eve and Ear again sought a solution to cramped and crowded quarters. The Infirmary embarked on a ten-year building plan to raise the necessary \$34 million to expand the facilities. The state didn't pay half the costs this time!

The old Scollay Square building, which housed the Infirmary from 1824 to 1850, was an out-patient facility and couldn't lodge the influx of patients from other parts of the state. Through contributions from donors and the state (which paid half

6

In December, we celebrated the completion of ten years' efforts with a formal dedication. Our major supporters, trustees and medical staff attended Dedication Day on December 5 when we all took an evening to reflect on the Infirmary's evolution from a clinic for indigent Bostonians with eye diseases 155 years ago to a facility capable of proceeding with leadership in patient care for our specialties into the twenty-first century. There were some true innovators in our midst and many many others who had contributed to the innovative process.

The new Rhinolaryngology Research Laboratory, made possible by a grant from the Pew Memorial Trust of Philadelphia, was formally dedicated in June after two years' construction. Dr. William W. Montgomery—Surgeon in Otolaryngology, Director of the lab, and Director of the Head and Neck Tumor Clinic as well as the Endoscopy Service—now has the facilities to pursue projects involving studies of the ear and his particular areas of expertise, diseases and deformities of the sinus and throat areas. Some projects are already underway and others are awaiting funding. I can cite many instances when he has used research he has done at MEEI to develop surgical and medical treatment innovations that have brought him international recognition. Ultimately, many people stand to gain from the work he'll be doing in this lab—people who cannot breathe effectively, those who cannot speak, or those who have cancer.

We heard good news in July from the Kresge Foundation who awarded us a \$350,000 challenge grant. These much-needed funds will be used toward the completion of other new and expanded eye, ear, nose and throat clinical and research facilities.

The Energy Conservation Committee reported an annual reduction of 10.55% in electricity usage and a reduction of 12.57% in steam usage. It is frustrating, however, because although our usage has decreased, cost certainly hasn't. Our efforts have not gone unnoticed. Mass. Eye and Ear was awarded an Energy Conservation Merit Certificate by the American Hospital Association last fall.

MEEI employees have been tapping their imaginations to come up with long-range and day-to-day money-saving measures. If we can save money in these ways, it leaves all the more to use where it really counts, in caring for our patients.

The installation of a TTY "teletypewriter" last year, for example, was another step taken by those at MEEI concerned about improving ways our sensory deprived patients can communicate with us. Our hospital's Ladies Visiting Committee acted on a proposal by the Ad-hoc Committee on Deafness and purchased a TTY, a telephone device which allows deaf and hearing impaired people to communicate with someone at the Infirmary. This is particularly crucial in an emergency situation and is being used for general information and appointment requests, as well.

There was no adjacent land available on which to build a whole new building, so the new one was constructed right over the old. The exterior building is now finished, but the completion of some clinical and research areas is still awaiting receipt of additional funds.

The Social Service Department opened their Glaucoma Group Meetings to the public last year. Every six weeks on a Thursday afternoon, a physician, nurse and social worker are on hand to answer questions which relatives and people with glaucoma may have on this very common eye problem.

Barbara Corey, RN, a respected and very capable administrator, retired after serving twelve years as Director of Nursing. A very smooth transition resulted as Judith Harvey, RN, took over as first Acting Director then Director of the department. Formerly the Supervisor of Nursing here since 1966, Ms. Harvey brought her familiarity with the department to her new position, and more than that, a new enthusiasm for furthering the department's professional potential.

Mass. Eye and Ear employees again last year generously volunteered their time on a Saturday in June to make Healthfest '79 a successful day of health education and screening. Mass. Eye and Ear, Mass. General and the Beacon Hill Civic Association together sponsored this fun-filled and informative event for our neighboring communities. Thousands of Bostonians who strolled the length of the Charles Street Fair in September also had a chance to question MEEI staff who "personned" a booth there all day.

Mass. Eye and Ear Infirmary is more than a building. We have a very dedicated staff—the nurses, the medical and research staffs, administrators, and people in the support services—all who share responsibility in upholding our excellence here. We count on their help and we'd like to count on yours as well. The exterior building is completed, but funds are still needed to continue plans for the inside spaces. Slated for this year, if the necessary funds are received, for example, is the modernization of the Otolaryngology Department's Electron Microscopy Lab, expansion of the Glaucoma Clinic and General Eye Service Clinic to accommodate the growing number of out-patients, and expansion of the laboratory facilities for glaucoma research. Each of these and other likewise worthwhile projects are considered necessary parts of the expansion of knowledge with the subsequent application leading to even better medical care.

On behalf of former and future patients, I'd like to thank our faithful supporters and welcome new friends to the Mass. Eye and Ear community.

Charles T. Wood,

Charles Wood

Director

Report of the Chief of Otolaryngology

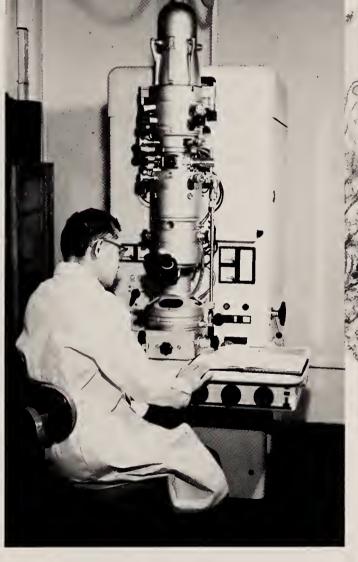


Harold E. Schuknecht, MD

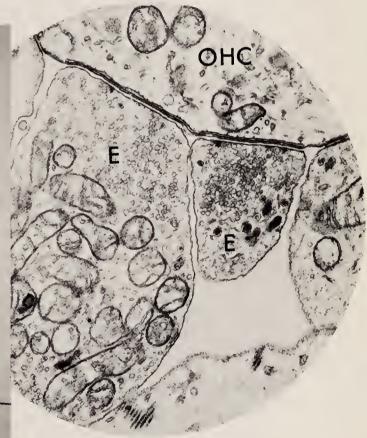
The Department of Otolaryngology has performed well this year in fulfilling its responsibilities to improve patient care, expand the frontiers of medical knowledge and communicate this knowledge to others. The following, in part, is what we have done.

Patient care During the past year we have treated 20,249 patients in the outpatient clinic and performed 5,705 surgical procedures, of which 1,805 were ambulatory and 3,900 were hospitalized. An additional 17,108 patients were examined and treated in the emergency ward and 6,221 people were seen in the offices of the full-time staff. Rhoda Morrison and her staff of audiologists performed 10,543 hearing tests, Drs. Max Goodman and Ben Pilch interpreted 12,365 pathological specimens and 477 electronystagmographies were performed.

The light microscope has been scientifically useful since the 17th century when Leeuwenhoek first observed a cell. Light microscopes have come a long way since then—they can now magnify up to 1,000 times. However, there is no limit to the potential magnification of the electron microscope. Improvements the last few years in the electron microscopes and tissue sectioning techniques have meant that samples can be observed more clearly at magnifications up to 50,000 times. Slated for 1980 is expansion of the otolaryngology department's Electron Microscopy Lab and



the purchase of two different kinds of electron microscopes to replace the outmoded one pictured above, in use since the 1950s.



Detail in neural structures such as the interaction between a hair cell in the ear's organ of corti and two types of neurons depicted in this photomicrograph, can be visualized only with the use of the electron microscope. One of the two new scopes will be a scanning electron microscope which can portray the above structures in their three-dimensional state. It is hoped that

study of these structures in diseased human ears will yield a better understanding of sensorineural hearing loss. Sensorineural hearing loss is gradual and in adults is usually the result of aging or prolonged exposure to high intensity noise. A hearing aid is virtually the only help at present and, although an aid can be helpful, it cannot restore hearing.

Aaron Thornton, PhD in audiology, has joined the full-time staff to direct the newly-created clinical laboratory of Evoked Response Audiometry. This laboratory utilizes computer techniques to determine more accurately the site in the ear or brain of a lesion causing a hearing loss, thus making possible a more accurate diagnosis and treatment. Other methods which are enhancing our diagnostic capability are analysis of middle ear muscle reflexes in the diagnosis of deafness, fiberoptic endoscopy to better visualize disorders of the nose and throat, and electron microscopic study of tumor tissues for more accurate determination of histologic type of neoplasm. CAT (computerized axial tomography) is an important new tool in diagnosing diseases of the ear, nose and throat. Currently we are dependent upon our neighbor, Massachusetts General Hospital, for this service, but every effort is being made to acquire a certificate of need so that we can add this "Nobel award" method to Dr. Alfred Weber's radiological armamentarium.

Every effort is being made to stay abreast of new developments in medical and surgical therapy. Our philosophy is to require statistical evidence of validity before adopting new therapies.

Infirmary patients can feel comforted by the services of the internal medicine section under the direction of Dr. Lloyd Axelrod of the Massachusetts General Hospital. His expert team of internists is available, both day and night, to assist in the management of patients who have ailments of organs other than the eye, ear, nose and throat. One of the great strengths of the MEEI is the medical backup we receive from the MGH, including medical and surgical consultation, blood bank services, intensive care, radiotherapy, neuroradiological diagnosis, biochemical tests, etc.

Comments on patient care would not be complete without acknowledging the enormous contribution of the visiting staff to patient care and teaching.

Education Six house officers (residents) are appointed each year for a three year service. Of this total of 18, three at a time serve at the hospitals in the Longwood area (Children's Hospital, Beth Israel Hospital, Peter Bent Brigham Hospital). Additionally we provide postgraduate fellowships for three individuals in otological research. The basic and clinical sciences are taught in five weekly conferences known as 1) fundamentals of rhinolaryngology, 2) fundamentals of otology, 3) clinical pathological conference, 4) otopathology conference, and 5) radiology conference.

Students from Harvard Medical School may select two elective courses, one fundamental and the other more intensive. When the available positions are not opted by Harvard students, the openings are made available to students from other medical schools.

A three-day course in clinical otology was given in June for 300 registrants in addition to our own staff. This course is a triennial affair and is sponsored through the Department of Continuing Education of the Harvard Medical School. Held in association with this meeting was the second scientific session of the HFS Society. All 60 members of this society were former research and/or clinical fellows of otolaryngology at the Infirmary and Harvard Medical School and now hold positions on medical faculties in 16 foreign countries and the United States.

Research An auspicious event was the dedication on June 26, 1979 of the Rhinolaryngology Research Laboratory which was constructed in shell space on the 4th floor through a grant from the Pew Memorial Trust. Dr. William Montgomery, Director of this laboratory, is in the process of developing its engineering sciences section which will further his work on devices to assist in correcting disorders of the upper airway. The histopathology section is fully operant with three full-time technicians.



Modern microsurgical techniques now make it possible to restore hearing in many cases of disease and conductive hearing loss. The stapedectomy procedure shown here, for example, involves removal of the diseased stapes (the smallest bone in the body, part of the intricate unit which transmits sound waves into the inner ear) and its replacement with an artificial substitute. Just about all patients experience some improved hearing as a result.

This is a sound-producing instrument, devised in the early 1900s to "massage eardrums and to stimulate hearing." At that time physicians knew little about the middle or inner ear workings. Surgical means to deal with hearing problems were only mildly successful in the first part of the century.



On June 30, 1979 the Infirmary received news of a substantial award from the Kresge Foundation for the construction of other research laboratories and an animal holding area in existing shell space. Drs. Kimura and Nadol, utilizing electron microscopic methods of study, are providing new insight into the patterns of innervation of the inner ear. The Eaton-Peabody Laboratory of Auditory Physiology, which is sponsored jointly by MEEI and MIT under the directorship of Dr. Nelson Kiang, has a staff of 40 persons, including faculty, post doctoral researchers, doctoral candidates, undergraduate students and technicians. The emphasis of its research is on understanding the physiological mechanisms of hearing in both the peripheral organ (middle and inner ear) and the brain. Dr. Charles Liberman, working with Dr. Kiang, has recently shown how noise and ototoxic drugs can cause partial hearing loss by damaging the cilia (hairs) of the sensory cells.

Dr. William Wilson has been involved in a multi-institutional study on therapies for a disorder termed "sudden deafness." The study shows that recovery of hearing for certain types occurs six times more commonly when a steroid drug (prednisone) is given than when no treatment is given.

Our research fellows work in conjunction with various members of the staff. Current projects include: 1) morphological changes in the inner ear in experimentally induced endolymphatic hydrops (Dr. Naoko Shinozaki, Japan), 2) pathological changes in the vestibular (balance) system in the human inner ear as a result of aging (Dr. Ernst Richter, Austria), 3) study of hearing in infants at risk for deafness with brain stem evoked response audiometry (Dr. Ana Mendoza, Uruguay), and 4) the effects on the auditory and vestibular system of graded concentrations of ototoxic drugs injected into the middle ear (Dr. Daniel Pender, USA).

Prospectives The people of the Infirmary, trustees, professional staffs and employees can enter the 1980s with pride based on knowledge that the past decade has brought enormous improvements in patient care, educational programs and research capability. We can face the future with enthusiasm, knowing full well that we have a viable institution in which to pursue our common objectives and exploit our individual motives and talents.

Harold F. Schuknecht, MD

Harred & Achileneolis.

Report of the Chief of Ophthalmology



Claes H. Dohlman, MI

This past year has seen more refinement and consolidation of programs, services and academic activities within the various services of the Eye Department and less actual growth than in some previous years. However, since some funds have been secured by the Managers for further construction in presently empty shell space, it has also been a time for intensive planning for the expansion of clinical programs, operating rooms and research laboratories.

Clinical Services and Staff Last year, there was a total of about 76,000 clinic visits, about one third of which were processed in the General Eye Clinic, another third in the Emergency Room, and the remainder distributed over the various Subspecialty Clinics. The General Eye Service provides the setting for quality general ophthalmic care and residency teaching at the Infirmary, and it functions increasingly well. Moderate reconstruction and some organizational changes are planned for the coming year. The number of Day Chiefs has recently been doubled so that not only the morning sessions, but also each afternoon session now has a supervisor.

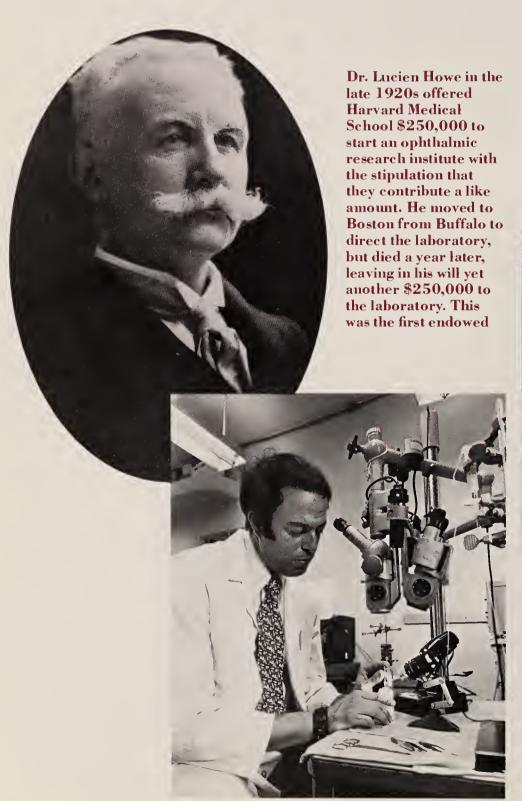
Shortage of space necessitated that patients had to wait in a crowded room to be seen by an ophthalmologist with virtually no privacy.

The eye clinics are now constructed so as to assure privacy and comfortable, individualized care. The waiting areas are separate and are conducive to a more relaxed atmosphere.



The above photograph is a goniophotocoagulation procedure taking place in an emergency ward examining room. Many people with neovascular glaucoma can now be treated with this new laser technique developed at the Infirmary. Another therapy using laser light, called photocoagulation, has been found to be one type of treatment that may aid thousands of diabetics who face possible loss of vision in the course of their disease.

The Emergency Room census has been increasing year after year and is obviously serving a large part of the Greater Boston population for emergency eye care. The Subspecialty Clinics remain a focal point for uniquely specialized care, teaching and clinical research. Some organizational restructuring has been undertaken in the subspecialty clinics during the year. Ocular Motility and Pediatric activities have been combined to form one service under the directorship of Dr. Stephen Fricker. Similarly, a Plastic-Orbit Service has been created with Dr. Arthur Grove as Acting Director. In addition, Dr. Daniel Albert became the new Director of Ophthalmic Pathology in July of this year.



research laboratory in the country. At first situated at the Medical School, the Howe Laboratory was moved to Mass. Eye and Ear in 1932.



The repercussions of advances made by notable researchers at the Howe Laboratory through the years have been felt worldwide. Studies here established the cause of retrolental fibroplasia, a blindness suffered by premature babies found to be the result of the very oxygen that saved their lives. The

binocular indirect ophthalmoscope was developed here as was a technique called tonography for detecting glancoma at early stages. Plans are to update and expand the facilities in 1980 to fill in more of the "shell space" pictured above. The reputation of the Infirmary and its staff attracts patients from around the world and thus, within the Eye Department, about 7,500 major surgical procedures were carried out during the year, many utilizing highly advanced and specialized techniques, some of which were developed in this hospital. Inpatient care is rendered with a high level of sophistication and excellent interaction between the surgical services and the departments of anesthesia, radiology and the various laboratories.

The average length of stay for hospitalized eye patients has decreased slightly during 1979 to 4.9 days. New ambulatory surgical facilities presently being constructed will undoubtedly decrease the length of stay even further without affecting the quality of care. This is a nationwide trend aimed at reducing hospital costs.

The Medical staff has been saddened by the deaths of three individuals who served the Infirmary loyally for many years. Dr. William P. Beetham, former Surgeon and Day Chief, and Dr. Charles H. McLaughlin died during the year. They will be long remembered for their dedication and ability. Also, the passing of Dr. Moses Lurie, ENT, is deeply regretted by the Eye Staff.

Teaching Our courses in ophthalmology for medical students continue to attract a large number of Harvard students and some from other universities. This exposure often leads to the awakening of interest in ophthalmology in those students who will eventually become ophthalmologists.

The Residency Program attracts candidates of superb quality and, after computer matching, eight each year are selected. Most of the recently accepted candidates have had, in addition to the required internship year, at least one year of research, and some hold Ph.D. degrees in a biological subject. Now all eight residents begin the 38-month program on July first. A basic science course is incorporated into the program in addition to extensive in-house teaching. The new rotation through the Peter Bent Brigham Hospital has become a positive experience for the residents, and it is generally felt that the graduating resident is now better prepared in both practice and theory than the graduate of just a few years ago.

At any one time during the year, about 30 post-residency fellows are receiving ophthalmic subspecialty training at the Infirmary, reaffirming our role as the leading institution for fellowship training in the country. Continuing Medical Education in the form of daily morning conferences are held in the Eye Department and are open to everyone on the Professional Staff. Postgraduate courses on various specific topics are also scheduled throughout the year and often attract large outside participation.

Another ophthalmic research lab, the Berman-Gund Laboratory for the Study of Retinal Degenerations was established in 1974, and is the national research center composed of an interdisciplinary team of investigators seeking the cause and cure for these retinal eye diseases that afflict about 100,000 people in the U.S. alone.

Research High quality eye research, both basic and clinical, flourishes in our institution. A multitude of approaches are being undertaken, reflecting the various interests and expertise of the principal investigators involved. The Glaucoma Research Group continues to expand activities (under the direction of Dr. Morton Grant) and is now bolstered by a large Clinical Center Grant. Dr. Leo Chylack also has been awarded a grant for his work on cataract research and he is the current recipient of the Friedkin Award presented annually to outstanding scholars in eye research by Research to Prevent Blindness, Inc. Many other fields of endeavor are ongoing, including the study of retinal degenerations, diabetic retinopathy, eye tumors, antiviral medication, and immunosuppression.

However, eye research is troubled by a lack of space. Shortage of laboratories and of clinical research facilities has seriously hampered recruitment of investigators in the past. During the last few years the situation has improved and the recently awarded \$350,000 grant from the Kresge Foundation for further laboratory construction in the Infirmary shell space should provide our researchers with better working conditions. Space needs for the next decade will nonetheless soon require expansion.

Outlook The magnificent building program of the last ten years has satisfied many of the acute needs of the Infirmary and its staff in terms of facilities for surgery, inpatients, auxiliary departments, and some outpatient clinics.

Now it will be necessary to shift our priorities somewhat and direct our resources to the renovation of some subspecialty clinics and to the allocation of more space for clinical and laboratory research. Undoubtedly, the long-term space needs of the Infirmary will require further acquisitions of real estate outside our present building. Fundraising and grant acquisition must parallel any space expansion. If the growth of the Eye Service is carefully planned and executed, the quality of our patient care and academic activities will be unmatched.

Claes H. Dohlman, MD Chief of Ophthalmology

Oaes Johlman

Financial Statements

Massachusetts Eye and Ear Infirmary

Operating Funds Balance Sheet

September 30, 1979

Current assets:		
Cash		\$ 2,572,603
Accounts receivable	\$ 7,700,442	
Less allowance		
for doubtful receivables	927,237	
		\$ 6,773,205
Investments, at cost		
(quoted market value \$2,027,147)		2,009,354
Inventories		239,971
Prepaid expenses		94,472
Due from investment pools		44,425
Estimated contract adjustments		547,574
Total current assets		\$12,281,604
Other assets:		
Property, plant and equipment	\$44,388,036	
Less accumulated depreciation	10,496,085	
Total other assets		\$33,891,951
Total operating funds		\$46,173,555

Total operating funds		\$46,173,555
Total other liabilities		\$40,204,538
		25,461,971
Plant fund	17,862,563	
Depreciation fund—unrestricted	3,220,703	
General operating fund	\$ 4,378,705	
Fund balances		
Equity in undistributed security pool		(55,963
Long-term debt, less current installme	ent	14,798,530
Other liabilities:		
Total current liabilities		\$ 5,969,017
Due to other funds		837,191
Accrued expenses		308,056
Accounts payable		2,392,912
Current installments of long-term deb	t	\$ 2,430,858
Current liabilities:		

Statement of
Revenue and Expenses
September 30, 1979

Patient service revenue:		\$25,023,466
Adjustment to patient revenue for uncollectible accounts, free care		
and contractual allowances		1,976,264
Net revenue service to patients		\$23,047,202
Other operating revenue (including \$6,496,470 from research and		
other specific purpose funds):		8,199,449
Total operating revenue		\$31,246,651
Operating expenses:		
Patient service (including depreciation)	\$24,543,120	
Research and other specific purpose direct expense	6,496,470	
Total operating expenses		\$31,039,590
Hospital net income from operations		\$ 207,061
		2.00

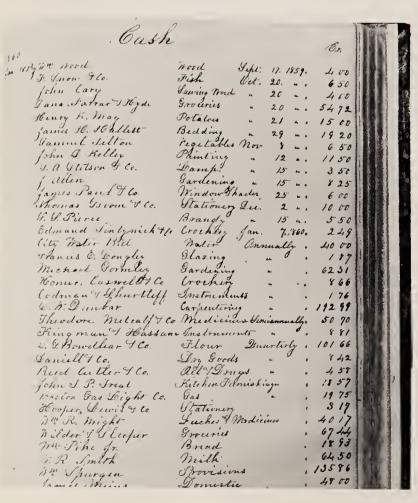
Financial Statements

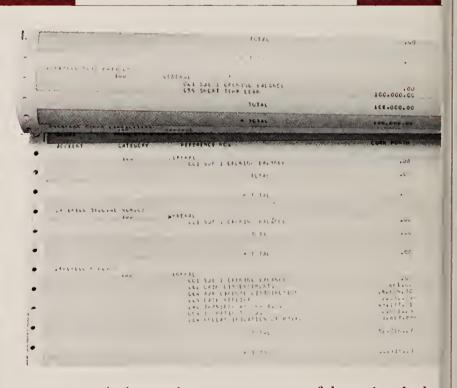
Massachusetts Eye and Ear Infirmary

Income from investments	\$ 1,324,853
Gifts and bequests Donated income — various estates	1,397,238 666,788
	\$ 3,388,879

Restricted funds	ricted funds Specific purpose funds:		₩	
Balance sheet			Equity in undistributed security	
September 30, 1979	Cash	\$ 1,438,257	pool gains	\$ (49,982)
	Investments at cost (quoted market		Fund balances	
	value \$1,955,191)	1,913,890	Special purpose	2,307,553
	Due from other funds	722,776	Temporary	1,463,252
	Receivable from grantor agencies	152,480	Unexpected restricted income	506,580
		\$ 4,227,403		\$ 4,227,403
	Endowment funds:			
			Equity in undistributed security	
			pool gains	\$ 4,717,504
	Cash	\$ 46,205	Fund balances	
	Investments at cost (quoted market		Income restricted	1,801,643
	value \$14,975,132)	14,781,873	Income unrestricted	8,308,931
		\$14,828,078		\$14,828,078
	Building fund:			
	Cash	\$ 799,267		
	Construction in progress	3,057,968	Accounts payable	\$ 97,225
	Due from other funds	114,415	Fund balance	3,874,425

\$ 3,971,650





An innovative computer analysis approach to hospital management and patient monitoring was initiated in the late 1960s. Information generated by the computer assists in scheduling the most efficient

use of the patient beds and operating room time, and is useful for budgeting, predicting staffing patterns and planning for the future needs of the hospital.

\$ 3,971,650

Comparative StatisticsMassachusetts Eye and Ear Infirmary

			1979	1978
Fiscal 1978–1979	Inpatient Hospital	Admissions:		
	174 beds	Eye patients	7,476	7,333
		ENT patients	4,303	4,003
		Total admissions	11,778	11,336
		Operations:		
		By Eye House Staff	913	1,211
		By Eye Attending Staff	6.762	6,263
		Total Eye operations	7,675	7,474
		By ENT House Staff	863	1,103
		By ENT Attending Staff	3,389	2,702
		Total ENT operations	4,252	3,805
		Total operations	11,927	11,279
		Discharges:	11,810	11,355
		Death	8	21
		Autopsies	37%	29%
		Patient days	54,187	55,658
		Average patient census	148	152
		Average length of stay Bed utilization	4.60	4.90
	0		85%	88%
	Outpatient Department	Eye Clinic Total Eye visits	2 4 191	5 2 611
			54,121	53,611
		ENT Clinic	10.77	20.000
		Total ENT visits	19,665	20,003
		Total OPD visits	73,786	73,614
	Emergency Ward	Eye cases	21,321	20,866
		ENT cases	17,985	16,243
		Total	39,306	37,109
	Ambulatory Surgery	Eye cases	2,559	2,323
		ENT cases	1,805	1,730
		Total	4,364	4,053
	Special Services	Audiology	10,211	9,164
		Electroretinography (tests)	1,088	1,020
		Fluorescein (tests)	2,732	2,404
		Low vision	148	126
		Neuro-ophthalmology	869	914
		Otoneurology (tests)	477	434
		Ultrasonography (tests)	365	296
		Radiology (exams)	29,352	29,833
		Laboratories:	0.004	0.430
		Eye pathology (specimens)	3,924	3,418
		ENT pathology (specimens)	11,270	10,957
		Clinical laboratory (procedures) Bacteriology (cultures)	102,351 13,881	96,052 14,375
		bacteriology (cultures)	15,081	14,575

Members of the Corporation

- 1925 Hon. Leverett Saltonstall* honorary
- 1934 Hon. Robert F. Bradford
- 1940 Mrs. Richard Cary Curtis
- 1940 Horace W. Frost* honorary
- 1943 Frederic Winthrop, Sr.* honorary
- 1947 William H. Claffin III
- 1948 August R. Meyer
- 1948 Miss Amelia Peabody, honorary
- 1951 Hon. Francis W. Hatch, Jr.
- 1951 Melville Chapin
- 1951 Henry K. Porter
- 1952 George A. McLaughlin, Sr.
- 1953 Mrs. Varaztad H. Kazanjian
- 1955 Richard P. Chapman
- 1955 Weston Howland, Jr.
- 1957 William L. Saltonstall
- 1963 Thomas B. Frost
- 1963 John S. Howe
- 1963 Frederick H. Lovejoy, honorary
- 1965 George M. Lovejoy, Jr.
- 1965 Mrs. John Lowell
- 1965 Frederick C. Rozelle, Jr.
- 1966 Francis S. Hill
- 1966 Robert Bacon
- 1966 James I. Summers
- 1966 Leo F. Daley, Sr.
- 1967 Paul A. Chandler, M.D., honorary
- 1967 Edwin B. Dunphy, M.D., honorary
- 1967 Mrs. F. Murray Forbes
- 1967 John M. Lord
- 1967 Leroy A. Schall, M.D.
- 1967 William F. Spang
- 1967 Monte J. Wallace
- 1968 Colin McA. Cunningham
- 1969 Richard W. Young, Ph.D.
- 1970 Ephron Catlin, Jr.
- 1970 Mrs. Frederick S. Moselev III*
- 1970 Mrs. Frederick R.H. Witherby
- 1971 Avram J. Goldberg
- 1971 Robert C. Jordan
- 1971 Mrs. Robert C. Meisel
- 1971 Robert D. Williams
- 1972 Matthew J. Burns
- 1972 Leo H. Daley
- 1972 Mrs. William P. Ellison
- 1972 Richard Harte
- 1973 Dominic P. Di Maggio
- 1973 J. Frank Gerrity
- 1973 Robert T.P. Storer, Jr.

- 1973 Frederick G.P. Thorne
- 1974 Bruce A. Beal
- 1974 William C. Mercer
- 1975 Bernard R. Baldwin
- 1975 Edward Reynolds, Jr.
- 1975 William Salatich
- 1976 Walter A. Rosenblith. ING. RAD.
- 1976 Gustave M. Solomons
- 1976 Mrs. Sally Stone
- 1976 Frederick Winthrop, Jr.
- 1977 Mrs. Lillian Fishburn
- 1977 Herbert W. Gray
- 1977 Ms. Regina Herzlinger
- 1977 Stanley G. Russell, Jr.
- 1977 Sandra Carnegie Steele
- 1977 Mrs. Alice W. Yancey
- 1978 Weston Howland, Jr.
- 1978 R. Widmer Hubbs

*Deceased, as of Dec. 5, 1979 **Resigned

Board of Managers

Melville Chapin, Chairman Robert C. Jordan, President

- William H. Claffin III, Treasurer
- Mrs. John Lowell, Secretary Ephron Catlin, Jr.
- John O'Sullivan Francis*
- J. Frank Gerrity
- Avram J. Goldberg
- George M. Lovejoy, Jr.
- August R. Meyer
- Duncan Neuhauser, Ph.D.*
- Henry K. Porter
- James I. Summers

Bylaws Committees

Executive Committee

Robert C. Jordan, Chairman

- Melville Chapin
- William H. Claffin III
- Claes H. Dohlman, M.D.
- George E. Garcia, M.D.
- Roy A. Johnson, M.D.
- Mrs. John Lowell
- Harold E. Schuknecht, M.D.
- Porter H. Smith, M.D.
- James I. Summers
- Robert D. Williams
- Charles T. Wood

Investment Committee

William H. Claffin III, Chairman

- Melville Chapin
- Richard Harte
- Robert C. Jordan
- Anthony P. Reis
- Frederick C. Rozelle, Jr.
- Charles T. Wood

Audit Committee

August R. Meyer, Chairman

- Herbert W. Gray
- Stanley G. Russell, Jr.

Nominating Committee

- Leo F. Daley, Sr., Chairman
- Melville Chapin
- Richard Harte
- August R. Meyer
- Robert D. Williams
- Charles T. Wood

Budget Committee

- Robert C. Jordan, Chairman
- Margarete L. Arndt
- Julianne T. Buono
- Claes H. Dohlman, M.D.
- Arthur J. Dunne
- Richard Harte
- Judith Harvey, R.N.
- Regina Herzlinger
- James Holzer
- Jeffrey R. Kelly
- William W. Montgomery, M.D.
- Charles D.J. Regan, M.D.
- Anthony P. Reis
- Harold F. Schuknecht, M.D.
- Porter H. Smith, M.D.
- Betty Stanford
- James I. Summers
- Richard A. Thoft, M.D.
- Alfred L. Weber, M.D.
- Charles T. Wood
- Alice W. Yancey

Planning Committee

George M. Lovejoy, Jr., Chairma

- Bruce A. Beal
- Julianne T. Buono
- Claes H. Dohlman, M.D.
- George E. Garcia, M.D.
- I. Frank Gerrity
- Roy A. Johnson, M.D.
- Robert C. Jordan
- Jeffrey R. Kelly John M. Lord
- Anthony P. Reis

Charles T. Wood

- Harold F. Schuknecht, M.D.
- Porter H. Smith, M.D.

Public Relations and

- **Development Committee**
- Melville Chapin, Chairman Bernard R. Baldwin
- Colin McA. Cunningham
- Dominic P. DiMaggio
- Arthur J. Dunne
- George E. Garcia, M.D.
- Mrs. John Lowell James I. Summers

Charles T. Wood

- **Human Studies Committee** Robert D. Williams, Chairman
- Julianne T. Buono
- Leo H. Daley, Jr.
- Max L. Goodman, M.D.
- W. Morton Grant, M.D.
- Robert S. Kimura, Ph.D.
- Robert W. Lamont-Havers, M.D.
- Harold F. Schuknecht, M.D.
- Sandra Carnegie Steele
- Robert T.P. Storer, Jr. Richard A. Thoft, M.D.

Charles T. Wood Personnel and Pension

- Comnuittee
- Henry K. Porter, Chairman
- Melville Chapin
- Lillian Fishburne Thomas B. Frost
- Robert C. Jordan Jeffrey R. Kelly
- Robert T.P. Storer, Jr.

George A. McLaughlin, Sr.

Charles T. Wood

20

^{*}Appointed by the Commonwealth

Accreditation Committee

August R. Meyer, Chairman Margarete L. Arndt Eleanor Bushman Claes H. Dohlman, M.D. George E. Garcia, M.D. Richard Giovanoni Max L. Goodman, M.D. Judith M. Grant Judith Harvey, R.N. Francis S. Hill James Holzer Barbara Houtman Jeffrey R. Kelly Herbert Kirshnit Roy A. Johnson, M.D. Robert C. Jordan Harold F. Schuknecht, M.D. Madeline S. Shipsey Porter H. Smith, M.D. Taylor R. Smith, M.D. Charles Snyder Alfred L. Weber, M.D. Alfred D. Weiss, M.D.

Charles T. Wood

Other Committees and Groups

Library and Archives

Abraham Pollen, M.D., Chairman Henry F. Allen, M.D. Richard L. Dallow, M.D. Claes H. Dohlman, M.D. Edwin B. Dunphy, M.D. Oscar Handlin B. Thomas Hutchinson, M.D. John W. Irwin, M.D. Jeffrey R. Kelly Nelson Y.S. Kiang, Ph. D. Robert S. Kimura, D.M.Sc. C. Robin LeSueur William W. Montgomery, M.D. Thomas J. Mulvaney, M.D. Harold F. Schuknecht, M.D. Porter H. Smith, M.D. Charles Snyder Richard A. Thoft, M.D.

Building Subcommittee

J. Frank Gerrity, Chairman Bruce A. Beal Julianne T. Buono Robert C. Jordan Stanley G. Russell, Jr. Charles T. Wood

Social Service Advisory

Mrs. Robert C. Meisel, Chairman Barbara J. Dawson Ruth Farrisey, R.N. George E. Garcia, M.D. Judith Harvey, R.N. Jeffrey R. Kelly Mrs. John Lowell Rhoda K. Morrison Joseph B. Nadol, Jr., M.D. Rosanne Ring Richard A. Thoft, M.D. Alfred D. Weiss, M.D. Charles T. Wood Michael Zoller, M.D.

Cambridge Street Community **Development Corporation**

Julianne T. Buono R. Widmer Hubbs Mrs. Frederick R.H. Witherby Charles T. Wood

Controlled Risk Insurance Company

August R. Meyer Charles T. Wood (alternate)

General Director

Charles T. Wood

Associate Director for Administration Jeffrey R. Kelly

Associate Director for Fiscal Affairs Anthony P. Reis

Director of Nursing Services Judith Harvey, R.N.

Consultant to the General Director for Development and **Public Affairs** F. Weston Prior

Assistant Director for Planning Julianne T. Buono

Director of Personnel Betty Stanford

Assistant Administrator Margarete L. Arndt

Assistant Administrator James Holzer

Departments and Services

Admitting

Ruth Dorfman, R.N., Manager

Building Services John Douglas, Director

Communications and Information Services Jean M. Wilson, Manager

Dietary Services

Herbert I. Kirshnit, Director

Maintenance Services Robert Marshall, Director

Medical Records

Barbara Houtman, Director

Operating Rooms Evelyn Brewster, R.N., Director

Outpatient Department

Francis X. McCrossan, Administrator Alice Sarno, Chief O.P.D. Admitting Officer

Purchasing and Stores Lehan Power, Director

Scheduling Mary Louise Davis, Manager

Social Service

S. Madeline Shipsey, Director

Volunteer Services

Rosanne Ring, Director

Program Evaluation Committee

Lloyd Axelrod, M.D. Julianne T. Buono Claes H. Dohlman, M.D. Arthur J. Dunne B. Thomas Hutchinson, M.D. Roy A. Johnson, M.D. Robert C. Jordan Jeffrey R. Kelly William W. Montgomery, M.D. Charles D.J. Regan, M.D. Anthony P. Reis Stanley G. Russell, Jr. Harold F. Schuknecht, M.D. Porter H. Smith, M.D. Richard A. Thoft, M.D. Alfred L. Weber, M.D. Charles T. Wood

Energy Conservation Committee

William C. Mercer, Chairman Andrew B. Baker Joseph Bellefontaine James J. Cunniff Arthur Doherty Cecil K. Drinker Arthur J. Dunne James Holzer Herbert I. Kirshnit Alexander MacArthur Robert Marshall James G. McMahon

Executive Committee, 1979

Mrs. William W. Montgomery, Chairman

Mrs. Albert R. Frederick, Jr.,

First Vice-Chairman

Mrs. Robert F. Kurtz,

Second Vice-Chairman

Mrs. Harold F. Schuknecht,

Treasurer

Mrs. I.D. Okamura,

Recording Secretary

Mrs. Calvin A. King,

Corresponding Secretary

Mrs. Henry F. Allen

Mrs. Howard M. Ecker

Mrs. Edgar H. Kent

Mrs. Henry Lyman, Jr.

Mrs. Robert C. Meisel

Mrs. John Lowell

Mrs. James I. Summers,

Inimediate Past Chairman

Members

Mrs. Henry F. Allen

Mrs. D. Robert Alpert

Mrs. Manning Barry

Mrs. Barry Benjamin

Mrs. Maurice Berlin

Mrs. Yale Berry

Mrs. C.J. Boulris

Mrs. Richard Bowman

Mrs. Harry E. Braconier

Mrs. Edwin J. Carr

Mrs. John Carroll III

Mrs. Malcolm B. Carsley

Mrs. Thomas Cavanaugh

Mrs. Richard B. Chapman

Mrs. Julian F. Chisholm

Mrs. Nathaniel D. Clapp

Susanne C. Summers Clorite

Mrs. Thomas P. Cronin

Mrs. Colin McA. Cunningham

Miss Winifred A. Cunningham

*Mrs. Richard Cary Curtis

Mrs. Leo F. Daley

Mrs. Benjamin C. Davis

Mrs. Daniel F. DiPalma

Mrs. Claes-Henrick Dohlman

Mrs. David D. Donaldson

Mrs. Weld Douglass

Mrs. Edgar Driscoll, Jr.

Mrs. Edwin B. Dumphy

Mrs. Howard M. Ecker

Mrs. John B. Eliot

Mrs. William Ellison

Miss Emilie Farnsworth

Mrs. F. Murray Forbes

Mrs. Albert R. Frederick, Jr.

Mrs. Richard R. Gacek

Mrs. Harold S. Geneen

Mrs. Kweku Ghartey

Mrs. Avram J. Goldberg

Mrs. Robert L. Goodale

Mrs. Max Goodman

Mrs. W. Morton Grant

Mrs. Trygve Gundersen

Mrs. Thomas L. Higgins

Mrs. Valentine Hollingsworth

Mrs. Edgar M. Holmes

Mrs. Alfred L. Hurst

Mrs. Edward E. Jacobs, Jr.

Mrs. Carl C. Johnson

Mrs. Roy A. Johnson

Mrs. Robert C. Jordan

*Mrs. Varaztad H. Kazanjian

Mrs. William J. Keefe, Jr.

Mrs. James H. Kelly

Mrs. Edgar H. Kent

Mrs. Calvin A. King

Mrs. Herbert Kirshnit

Mrs. Thomas R. Klein

Mrs. Robert E. Klotz

Mrs. Clarence E. Knapp

Mrs. Milton Knight

Mrs. Robert F. Kurtz

Mrs. Clarence E. Kylander

Mrs. William Lavelle

Mrs. Bertram H. Loewenberg

Mrs. Robert H. Lofgren

*Mrs. John Lowell

Mrs. Henry Lyman, Jr.

Miss Anita Mangiaracine

Mrs. Arthur E. Margulies

Mrs. David B. McClosky

Miss Maryellen McEvov

Mrs. J. Wallace McMeel *Mrs. Robert C. Meisel

Mrs. Daniel Miller

Mrs. G. Gardner Monks

Mrs. William W. Montgomery

Mrs. Frederick S. Moselev III

Mrs. Stephen P. Mugar

Mrs. Joseph B. Nadol, Jr.

Mrs. I.D. Okamura

Mrs. George M. Olive, Jr.

Mrs. Irving Pavlo

Mrs. Grafton Perkins

Mrs. Enid Fay Phillips

Mrs. Henri Prunaret

Mrs. Franklin Reece

Mrs. Charles D.J. Regan

Miss Florence Reid

*Mrs. John B. Richardson

Mrs. Karl Riemer

Mrs. Phillips H. Roland II

Mrs. Aram Roopeniam

Mrs. Milton Rosenthal

Mrs. Baruch Sachs

Mrs. Ernest J. Sargeant

Mrs. Charles L. Schepens

Mrs. Harold F. Schuknecht

Mrs. Alfred W. Scott Mrs. Henry R. Scott

Mrs. Earle S. Seale

Mrs. John G. Sebestyen

Mrs. Samuel Simons

*Mrs. William A. Slade, Jr.

Mrs. Albert E. Sloane

Mrs. Taylor R. Smith

Mrs. George E. Stephenson

Mrs. Mildred Sullivan

*Mrs. James I. Summers

Mrs. Thomas C. Thacher

Mrs. John C. Thaver

Mrs. Robert Truesdale

Mrs. Silvio vonPirquet Mrs. Donald R. Weis

Mrs. Lyon Weyburn

Mrs. Roy R. Wheeler

Mrs. Henry R. Wile

Mrs. William R. Wilson Mrs. Andrew N. Winslow, Jr.

Mrs. Victor A. Wolff

Mrs. Rosanne Ring

Honorary Members

Mrs. Loretta McLaughlin

*Past Chairman



One of the oldest women's hospital auxiliaries in the country, the MEEI Ladies Visiting Committee's history goes back to the years following the Civil War. The ladies would visit and read to patients, many of whom at the time had to be hospitalized for weeks or even months.

The Ladies Visiting

Committee today continues its dedication to patient comfort as bedside volunteers and in many other ways. Their projects range from purchasing special patient beds, decorating waiting areas and purchasing equipment—to ambitious projects such as the Infirmary's Gift Shop and the pledge of a significant sum to the new building fund.





All listings as of December 5, 1979

Joint Staff Executive Committee

Charles T. Wood

George E. Garcia, M.D., Chairman A. Robert Bellows, M.D. Claes H. Dohlman, M.D. Allan G. Edwards, M.D. Roy A. Johnson, M.D. Robert C. Jordan Joseph C. Kim, M.D. Joseph A. Moretti, M.D. Thomas J. Mulvaney, M.D. Harold F. Schuknecht, M.D. Richard J. Simmons, M.D. Porter H. Smith, M.D.

Ophthalmology

Active Staff

Chief of Ophthalmology Claes H. Dohlman, M.D.

Associate Chiefs of Ophthalmology

Charles D. J. Regan, M.D. Richard A. Thoft, M.D.

Surgeons in Ophthalmology

S. Arthur Boruchoff, M.D. Robert J. Brockhurst, M.D. Richard B. Chapman, M.D. Thomas P. Cronin, M.D. Claes H. Dohlman, M.D. David D. Donaldson, M.D. Stephen J. Fricker, M.D. George E. Garcia, M.D. John R. Gehring, M.D. W. Morton Grant, M.D. Warren D. Haley, M.D. B. Thomas Hutchinson, M.D. Byron S. Lingeman, M.D. J. Wallace McMeel, M.D. Irving L. Pavlo, M.D. Charles D. J. Regan, M.D. Alfred W. Scott, M.D. David H. Scott, M.D. Richard J. Simmons, M.D. Taylor R. Smith, M.D. Richard A. Thoft, M.D.

Associate Surgeons in Ophthalmology

Lloyd M. Aiello, M.D. Daniel M. Albert, M.D. Eliot L. Berson, M.D. Charles K. Beyer, M.D. John M. Carroll, M.D. Albert R. Frederick, Jr., M.D. H. MacKenzie Freeman, M.D. Carl G. Freese, M.D. Ralph H. Hinckley, M.D. Roland E. Houle, M.D. Joseph C. Kim, M.D. Robert C. Lawlor, M.D. Eeva-Liisa Martola, M.D. George M. Olive, M.D. Robert A. Petersen, M.D. Ronald C. Pruett, M.D. Perry Rosenthal, M.D. Baruch J. Sachs, M.D. John G. Sebestyen, M.D. Harvey H. Slansky, M.D. Silvio R. vonPirquet, M.D. David S. Walton, M.D. Donald R. Weis, M.D. Michael S. Wiedman, M.D.

Associate Physician in Ophthalmology Shirley H. Wray, M.D.

Assistant Surgeons in Ophthalmology

A. Robert Bellows, M.D. Don C. Bienfang, M.D. Chester R. Boulris, M.D. Jack F. Bowers, M.D. Leo T. Chylack, M.D. Eugene C. Ciccarelli, M.D. Richard L. Dallow, M.D. Elliot M. Finkelstein, M.D. Richard P. Floyd, M.D. Alexander R. Gaudio, M.D. Robert A. Gorn, M.D. David Z. Greenseid, M.D. Arthur S. Grove, Jr., M.D. Tatsuo Hirose, M.D. Eric C. Johnson, M.D. Mohandas M. Kini, M.D. Joel Arthur Kraut, M.D. Arnold J. Kroll, M.D. Brent W. Lambert, M.D. Ernst Meyer, M.D. Joseph Michon, Jr., M.D. David Miller, M.D. Edward B. Murphy, Jr., M.D. Deborah Pavan-Langston, M.D. Donald W. Putnoi, M.D. Richard M. Robb, M.D. Felipe I. Tolentino, M.D.

Assistants in Ophthalmology

Mark B. Abelson, M.D. Ann Marie Bajart, M.D. C. David Belcher, Jr., M.D. John B. Constantine, M.D. Robert B. Cook, M.D.* Stephen Depperman, M.D. David K. Dueker, M.D. David L. Epstein, M.D. C. Stephen Foster, M.D. Kweku Ghartey, M.D. Edward F. Goodman, M.D. Evangelos S. Gragoudas, M.D. David A. Hill, M.D. David S. Hutchison, M.D. Barry H. Jacobs, M.D. Jay H. Kaufman, M.D. Robert T. Lacy, M.D. James R. Lee, M.D. Raymond R. Liggio, M.D. Peter B. Mooney, M.D. James T. Patten, M.D. David G. Perkins, M.D. Charles T. Post, Jr., M.D. Thomas M. Richardson, M.D. James Rosenberg, M.D. Edward A. Ryan, M.D. Kenneth Stampfer, M.D. Daniel W. Tolpin, M.D. David M. Tracy, M.D. Clement Trempe, M.D. Paul F. Vinger, M.D. George A. Violin, M.D. Mohammed Z. Wafai, M.D. Harold A. Woodcome, M.D.

*Leave of absence.

Associate Staff

Assistants in Ophthalmology

Frank G. Berson, M.D.
Michael Bradbury, M.D.
Philip J. Harris, M.D.
Kenneth Kenyon, M.D.
Peter L. Lou, M.D.
Leon Remis, M.D.
Theodore J. Renna, M.D.
Caldwell W. Smith, M.D.
John V. Thomas, M.D.
Safa Wagdi, M.D.
Johan Zwaan, M.D.

Consulting Staff

Consulting Chiefs of Ophthalmology

Henry F. Allen, M.D. Paul A. Chandler, M.D. David G. Cogan, M.D. Edwin B. Dunphy, M.D.

Senior Consulting Surgeons in Ophthalmology

D. Robert Alpert, M.D. Harry E. Braconier, M.D. Virgil G. Casten, M.D. Joseph M. Clough, M.D. Mahlon T. Easton, M.D. Trygve Gundersen, M.D. Carl C. Johnson, M.D. Brendan D. Leahey, M.D. Sumner D. Liebman, M.D. Henry A. Mosher, M.D. Ichiro D. Okamura, M.D. Abraham Pollen, M.D. Karl Riemer, M.D. Charles L. Schepens, M.D. Earl S. Seale, M.D. Albert E. Sloane, M.D. Garrett L. Sullivan, M.D. Francis J. West, M.D.

Services

General Eye Service Charles D.J. Regan, M.D.,

Director

Ophthalmic Pathology

Daniel M. Albert, M.D., Director

Glaucoma Service

W. Morton Grant, M.D., Director

Cornea Service

Kenneth Kenyon, M.D., Director

Motility-Pediatrics Service

Stephen J. Fricker, M.D., Director

Neuro-Ophthalmology Service

Shirley H. Wray, M.D., Director

Retina Service

Charles D.J. Regan, M.D., Acting Director

Plastic-Orbit Service

Arthur S. Grove, Jr., M.D., Acting Director

Resident Training

C. Stephen Foster, M.D., Director Thomas Hedges III, M.D., Assistant Director



Clinical Fellows in Ophthalmology

Retina Service

Joseph Burke, M.D.
Sheldon M. Buzney, M.D.
Norman Blair, M.D.
Maria Castillejos, M.D.
John Charles Hoskins, M.D.
Alexandre E. Jalkh, M.D.
William A. MacIlwaine, M.D.
Kathleen Maguire, M.D.
George Moo-Young, M.D.
Robert H. Noel, M.D.
Charles H. Robinson, M.D.
Harvey W. Topilow, M.D.
James A. Valone, M.D.
Leroy William Vaughn, M.D.
Joseph Walker, M.D.

Cornea Service

Elisabeth Cohen, M.D. Joseph Eliason, M.D. Jerry A. Fogle, M.D. Michael Hettinger, M.D. Ira Udell, M.D.

Glaucoma Service

Saeid Abedin, M.D. Claudia Arrigg, M.D. William P. Boger, M.D. (part-time) Marshall N. Cyrlin, M.D. Paul S. Greenfield, M.D. Omah Singh, M.D.

Neuro-Ophthalmology David Smith, M.D.



Honorary Staff

Associate Surgeons in Ophthalmology

Frederic B. Breed, M.D. John M. Hill, M.D.

Assistant Surgeons in Ophthalmology

Julian F. Chisholm, M.D. Robert Kinder, M.D. Arthur M. Morrissey, M.D. Bertha Offenbach, M.D.



Even back as far as 300 years ago, there was an effort to design attractive and efficient spectacle frames. It wasn't until the 1860s, however, that vision

was scientifically measured and lenses actually prescribed. In fact, in mid-nineteenth century, patients leaving the Infirmary after a cataract operation would simply pick out a pair of spectacles from a box by the door on their way out.

Electrophysiology

Jo Bernice Rosen, M.D.

Eve Pathology

Thomas Hedges III, M.D. Neil N. Silbermann, M.D.

Plastic and Reconstructive Surgery

Miriam Dougherty, M.D. Susan Marie Hughes, M.D. Steven Pratt, M.D.

Residents

Donald J. D'Amico, M.D. Thaddeus P. Dryja, M.D. Anthony J. Fraioli, M.D. Harold Granek, M.D. Peter C. Gruenberg, M.D. Dorothy Jeanne Horns, M.D. Samuel Gregory Jacobson, M.D. Sulayman E. Jallow, M.D. Edward W. Kim, M.D. Henry J. Kriegstein, M.D. John C. Merriam, M.D. Kambiz Moazed, M.D. Andrew J. Packer, M.D. Carmen Puliafito, M.D. Arnold R. Rabin, M.D. Claudia U. Richter, M.D. Susan H. Ryu, M.D. Alfredo A. Sadun, M.D. Delia N. Sang, M.D. Bradford J. Shingleton, M.D. Lois E. Smith, M.D. Frank A. Spellman, M.D. Roger F. Steinert, M.D. John H. TenPas, M.D. Jane Wang, M.D. Robert C. Ward, M.D.

New England Eye Bank

Valerie Pelham, R.N. Executive Director S. Arthur Boruchoff, M.D. Richard A. Thoft, M.D. Medical Co-Directors

Executive Committee of New England Eve Bank

S. Arthur Boruchoff, M.D. Mrs. Malcolm B. Carsley Mrs. Richard Cary Curtis, honorary Mrs. James W. Dawsen, Jr. Haynes H. Fellows, Jr. Erick Kauders, honorary **Endicott Smith** Richard A. Thoft, M.D.



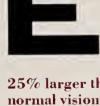
8% larger than normal vision



Normal vision



25% larger than





Cataract removed eye with spectacle lens



Cataract removed eve with contact lens



Normal eye

Eveglasses are now available in many fashionable styles, but for those whose cosmetic preference is contact lenses, there are new varieties of hard, soft and gas permeable lenses. Almost 500,000 people have cataract surgery every year, a procedure in which the natural lens is removed, because it is clouded. Once the lens is removed, a

replacement must be used for focusing in order to restore vision. Research developments have produced several alternatives to the thick cataract spectacles: the many hard and soft contact lenses, the controversial intraocular lens implant, and the exciting extended-wear contact lenses (several of which are being investigated by researchers here). The choice is a personal one, between the patient and the ophthalmologist.

Otolaryngology

Active Staff

Chief of Otolaryngology Harold F. Schuknecht, M.D.

Surgeons in Otolaryngology William L. Hayden, M.D. Alfred L. Hurst, M.D. Thomas R. Klein, M.D. Robert E. Klotz, M.D. Robert H. Lofgren, M.D. William W. Montgomery, M.D. Harold F. Schuknecht, M.D.

Associate Surgeons in Otolaryngology Yale J. Berry, M.D. Allan G. Edwards, M.D. Richard C. Fabian, M.D. C. Edward Jackson, M.D. Roy A. Johnson, M.D. Donald G. Keamy, M.D. John M. Kurkjian, M.D. Clarence Kylander, M.D. Carl M. Lieberman, M.D. Joseph A. Moretti, M.D. Rufus C. Partlow, M.D. Marshall S. Strome, M.D. Richard C. Webster, M.D. William R. Wilson, M.D.

Assistant Surgeons in Otolaryngology Robert P. Cipro, M.D. Edward G. Glinski, M.D. Edward E. Jacobs, M.D. Ely A. Kirschner, M.D. William G. Lavelle, M.D. Jon B. Liland, M.D.* Thomas J. Mulvaney, M.D. Joseph B. Nadol, Jr., M.D. Angelo Pappanikou, M.D. Stephen A. Smith, M.D.

Assistants in Otolaryngology

Barry J. Benjamin, M.D.
Stuart H. Bentkover, M.D.
Elaine D. Carrol, M.D.
Howard M. Ecker, M.D.
James P. Hughes, M.D.
James H. Kelly, M.D.
Charles Leidner, M.D.
Trevor J.I. McGill, M.D.
David E. Nash, M.D.
Joseph H. Oyer, M.D.
Stephen A. Parker, M.D.
Edward J. Reardon, M.D.
Syed S. Rizvi, M.D.
Howard G. Smith, M.D.
Alfred D. Weiss, M.D.

*Leave of absence

Consulting Staff

Consulting Chief of Otolaryngology Leroy A. Schall, M.D.

Senior Consulting Surgeons in Otolaryngology

Walter J.E. Carroll, M.D.
J. Charles Drooker, M.D.
John R. Frazee, M.D.
Robert L. Goodale, M.D.
Edgar M. Holmes, M.D.
John E. McKeigue, M.D.
Daniel Miller, M.D.
John R. Richardson, M.D.
Sidney R. Wilker, M.D.
Bernard Zonderman, M.D.

Senior Consulting Associate Surgeons in Otolaryngology Aram Roopenian, M.D. John C. Trakas, M.D.

Honorary Staff

Associate Surgeons in Otolaryngology Charles Kent, M.D. Herman J. Sternstein, M.D.

Assistant Surgeon in Otolaryngology Elizabeth DeBlois, M.D.

Assistant in Otolaryngology Frank W. Brady, M.D.

Associate Staff

Associate Surgeon in Otolaryngology Werner D. Chasin, M.D.

Assistants in Otolaryngology Robert Wayne Clubb, M.D. Marvin P. Fried, M.D. John Nicholas Vandemoer, M.D.

Consultant in Prosthodontia Peter E. Goldberg, D.D.S.



Formal ear, nose and throat research first started here in the 1920s and focused on bacterial and anatomical studies. In conjunction with the Massachusetts Institute of Technology, the Eaton Peabody Laboratory of Auditory Physiology was formed in 1959. Its team of researchers, neurophysiologists and electrical engineers has since gained fame for work in understanding the physiological mechanisms of hearing.

Services

Subdivision of Plastic and Reconstructive Surgery

Richard L. Fabian, M.D., Chief of Plastic and Reconstructive Surgery

Aram Roopenian, M.D., Senior Consulting Associate Surgeon in Plastic and Reconstructive Surgery

Richard C. Webster, M.D., Associate Surgeon in Plastic and Reconstructive Surgery

Edward E. Jacobs, M.D., Assistant Surgeon in Plastic and Reconstructive Surgery

William G. Lavelle, M.D., Assistant Surgeon in Plastic and Reconstructive Surgery

Howard E. Ecker, M.D., Assistant in Plastic and Reconstructive Surgery

John Nicholas Vandemoer, M.D., Assistant in Plastic and Reconstructive Surgery

Subdivision of Otolaryngologic Pathology

Max L. Goodman, M.D., Director Ben Z. Pilch, M.D. Assistant in Pathology

Head and Neck Tumor Clinic William W. Montgomery, M.D., *Director*

Endoscopy Service William W. Montgomery, M.D., Director Thomas J. Mulvaney, M.D., Associate Director

Esophageal Voice Classes Eve Herbert, *Director*

Audiology Rhoda K. Morrison, *Director*

Residents

Peter S. Ambrus, M.D. Paul J. Carniol, M.D. Zeno N. Chicarilli, M.D. Louise I. DiGregorio, M.D. Roland D. Eavey, M.D. Mark S. Granich, M.D. Bradley Hall, M.D. Maynard C. Hansen, M.D. Martin L. Hopp, Ph.D., M.D. Steven B. Hopping, M.D. Michael P. Joseph, M.D. Michael J. Kaplan, M.D. J. Cameron Kirchner, M.D. Charles M. Norris, M.D. Hubert C. Patterson, M.D. Martin A. Shugar, M.D. Jeffrey V. Stein, M.D. David N. Vernick, M.D.



The new Rhinolaryngology Research Laboratory was opened in June, 1979, after two years' construction, funded through a grant

from the Pew Memorial Trust. Here work will center on developing better ways of managing deformities and diseases of the sinus and throat areas. The other ENT labs at Mass. Eye and Ear

besides this one and the Eaton Peabody are the Electron Microscopy Laboratory and the Histopathology Lab.

Medical Staff common to both services

All listings as of December 5, 1979

Department of Ophthalmology

Howe Laboratory of Ophthalmology

Claes H. Dohlman, M.D., Director Daniel M. Albert, M.D. P. John Anderson, M.D. Don C. Bienfang, M.D. Hong-Ming Cheng, Ph.D. Leo T. Chylack, Jr., M.D. David D. Donaldson, M.D. David K. Dueker, M.D. David L. Epstein, M.D. Stephen J. Fricker, M.D. W. Morton Grant, M.D. Judith Jedziniak-McGregor, Ph.D. Donovan J. Philaja, Ph.D. Thomas M. Richardson, M.D. Shirley H. Wray, M.D. Johan Zwaan, M.D.

Librarian

Charles Snyder

Research Administrator

Cecil K. Drinker, M.B.A.

Research Fellows

Claudia Arrigg, M.D. David G. Birch, Ph.D. M. Kathryn Gillis, Ph.D. John R. Gonder, M.D. Laurie W. Raymond, M.D. David N. Smith, M.D. Michael D. Wagoner, M.D.

Berman-Gund Laboratory for the Study of Retinal **Degenerations**

Eliot L. Berson, M.D., Director Ross B. Edwards, Ph.D. Jo Bernice Rosen, M.D. Michael A. Sandberg, Ph.D. Susan Y. Schmidt, Ph.D. R. Bruce Szamier, Ph.D.

Research Associates in Ophthalmology

Charles E. Riva, D.Sc. Ernst G. Wolf, M.D.

Department of Otolaryngology

Eaton Peabody Laboratory

Nelson Y. S. Kiang, Ph.D., Director Terrance R. Bourk, Ph.D. Steven H. Colburn, Ph.D. Alan H. Crist, S.B. Bertrand Delgutte, M.S. Barbara C. Fullerton, Ph.D. John J. Guinan, Jr., Ph.D. Thomas Holton, S.M. Victor B. Kava, B.S. Robert A. Levine, M.D. M. Charles Liberman, Ph.D. Thomas J. Lynch III, S.M. Joseph B. Nadol, Jr., M.D. William T. Peake, Sc. D. William M. Rabinowitz, Ph.D. John J. Rosowski, Ph.D. David K. Ryugo, Ph.D. William F. Sewell, Ph.D. Frank J. Stefanov, B.S. David A. Steffens, S.B. Thomas F. Weiss, Ph.D.

Electron Microscopy Laboratory

Robert S. Kimura, Ph.D., Director

Evoked Response Audiometry Laboratory

Joseph B. Nadol, Jr., M.D., Director Aaron K. Thornton, Ph.D., Associate Director

Histopathology Laboratory

Harold F. Schuknecht, M.D.

Microcirculatory Laboratory

John W. Irwin, M.D., Director

Rhinolaryngology Research Laboratory

William W. Montgomery, M.D., Director

Clinical Fellows in Otolaryngology

Carl A. Brown, M.D. Peter Hilger, M.D.

Research Fellows in Otolaryngology

Ken Kitamura, M.D. Daniel Pender, M.D. Ernst A. Richter, M.D. Shigeru Saigo, M.D. Naoko Shinozaki, M.D.

Department of Anesthesiology

Chief of Anesthesiology

Porter H. Smith, M.D.

Anesthesiologists

John V. Donlon, M.D. Jin Woo Kim, M.D.

Assistant Anesthesiologists

Malcolm J. Heslop, M.D. Daniel W. Lang, M.D. Kathryn E. McGoldrick, M.D. David I. Sonn, M.D. Lily G. Tabbal, M.D.

Assistants in Anesthesiology

Vitali H. DeGuzman, M.D. Ismail Seda Sensel, M.D. Heinrich R. Von Helmstatten, M.D.

Assistants in Anesthesiology (part-time)

J. A. Jeevendra Martyn, M.D. Daniel Nozik, D.D.S. Carl E. Rosow, M.D.

Associate Staff

Assistants in Anesthesiology (part-time)

William E. Johnston, M.D. Richard Tomichek, M.D.

Medical Unit

Active Staff

Chief of Medical Unit Lloyd Axelrod, M.D.

Consultants in Internal Medicine

Lloyd Axelrod, M.D. Gerald Dovle, M.D. Richard A. Field, M.D.

Epidemiologist and Consultant t in Infectious Diseases; **Associate Medical Director** of Bacteriology

Ann S. Baker, M.D.

Associate Staff

Consultants in Internal Medicine

Franklin Richard Bringhurst, M.D. Norman L. Letvin, M.D. David M. Nathan, M.D. Perry G. Pate, M.D. Harry R. Phillips, M.D. Randall Zusman, M.D.

Microbiology

Joan Haaf, Bacteriologist

Clinical Laboratory

Eleanor Bushman, Chief Medical Technologist

Pharmacy

Richard Giovanoni, Director

Harvard Medical School Faculty

Department of Radiology

Active Staff

Chief of Radiology

Alfred L. Weber, M.D.

Associate Radiologist

K. Jack Momose, M.D.

Assistant Radiologist

Steven Hammerschlag, M.D.

Associate Staff

Assistants in Radiology

James Davis, M.D.

John Hesselink, M.D.

Consulting Staff

Consultants in Radiotherapy

Milford D. Schulz, M.D.

Herman D. Suit, M.D.

Chiu-Chen Wang, M.D.

Clinical Associates in Radiology

Jeanne Keller, M.D.

Daniel Kido, M.D.

Department of Ophthalmology

Professors of Oplithalmology

Daniel M. Albert, M.D. Claes H. Dohlman, M.D. W. Morton Grant, M.D.

Clinical Professor of **Oplithalmology**

Henry F. Allen, M.D.

Associate Professors of Ophthalmology

Mathea R. Allansmith, M.D. Michael M. Berman, Ph.D.

Eliot L. Berson, M.D.

Leo T. Chylack, M.D.

David D. Donaldson, M.D.

Stephen J. Fricker, M.D.

David Miller, M.D.

Arthur H. Neufeld, Ph.D.

Charles D. J. Regan, M.D.

Liane Reif-Lehrer, Ph.D.

Richard M. Robb, M.D.

Richard A. Thoft, M.D.

Shirley H. Wray, M.D.

Associate Clinical Professors of Ophthalmology

Charles K. Bever, M.D. S. Arthur Boruchoff, M.D.

Robert J. Brockhurst, M.D.

H. MacKenzie Freeman, M.D.

Taylor R. Smith, M.D.

Assistant Professors of Ophthalmology

Alan R. Adolph, Ph.D.

Don C. Bienfang, M.D.

Peter F. Davison, Ph.D.

David K. Dueker, M.D.

David L. Epstein, M.D.

C. Stephen Foster, M.D.

Ann B. Fulton, M.D.

Ilene Kay Gipson, Ph.D. Evangelos S. Gragoudas, M.D.

Arthur S. Grove, Jr., M.D.

Bernard J. Jacobson, Ph.D. Judith A. Jedziniak-McGregor, Ph.D.

Kenneth R. Kenyon, M.D.

Noritsugu Mukai, M.D.

Robert A. Petersen, M.D.

Susan Y. Schmidt, Ph.D.

D. Max Snodderly, Jr., Ph.D.

R. Bruce Szamier, Ph.D.

David S. Walton, M.D.

Johan Zwaan, M.D.

Assistant Clinical Professors in Ophthalmology

Lloyd M. Aiello, M.D. A. Robert Bellows, M.D.

George E. Garcia, M.D.

Tatsuo Hirose, M.D.

B. Thomas Hutchinson, M.D.

J. Wallace McMeel, M.D.

Deborah Pavan-Langston, M.D.

Abraham Pollen, M.D.

Ronald C. Pruett, M.D.

Alfred W. Scott, M.D.

Richard J. Simmons, M.D. Felipe I. Tolentino, M.D.

Lecturers on Ophthalmology

Moshe Lahav, M.D.

David M. Maurice, Ph.D.

Guiseppina d'Elia Raviola, M.D.

Principal Associate in **Ophthalmology**

Miguel F. Refojo, D.Sc.

Associates in Ophthalmology

Bireswar Chakrabarti, Ph.D.

Charles K. Cintron, Ph.D.

François C. Delori, Ph.D.

Marshall T. Doane, Ph.D.

Cecil K. Drinker, M.B.A.

Donovan J. Philaja, Ph.D.

Robert H. Webb, Ph.D.

Instructors in Ophthalmology

Alice J. Adler, Ph.D.

Peter J. Anderson, Ph.D.

Stephen P. Bartels, Ph.D.

Frank G. Berson, M.D.

William P. Boger III, M.D.

Hong-Ming Cheng, Ph.D.

Ross B. Edwards, Ph.D. Gilbert T. Feke, Ph.D.

Erwin Hultsch, Ph.D.

Richard Leary, Ph.D.

Luke H.S. Liu, M.D.

Peter L. Lou, M.D.

No Hee Park, Ph.D.

Benigno D. Peczon, Ph.D.

Richard L. Pharo, D.Sc.

Michael A. Sandberg, Ph.D.

Mohammed Z. Wafai, M.D.

Clinical Assistants in Ophthalmology

Ann M. Bajart, M.D. Jack F. Bowers, M.D. John B. Constantine, M.D. Howard L. Feldman, M.D. Richard P. Floyd, M.D. David S. Greenseid, M.D. Peter P. Gudas, M.D. David S. Hutchison, M.D. Barry H. Jacobs, M.D. Jav H. Kaufman, M.D. Robert T. Lacy, M.D. James R. Lee, M.D. Edward A. Ryan, M.D. Daniel W. Tolpin, M.D. Silvio R. vonPirquet, M.D.

Clinical Fellows in

Ophthalmology Elisabeth J. Cohen, M.D. Marshall Cyrlin, M.D. Donald J. D'Amico, M.D. Thaddeus P. Dryja, M.D. Joseph H. Eliason, M.D. Anthony J. Fraioli, M.D. Jerry A. Fogle, M.D. Harold Granek, M.D. Peter C. Gruenberg, M.D. Thomas R. Hedges, M.D. Michael Hettinger, M.D. Dorothy J. Horns, M.D. Samuel G. Jacobson, M.D. Sulayman E. Jallow, M.D. Edward W. Kim, M.D. Henry J. Kriegstein, M.D. John C. Merriam, M.D. Kambiz Moazed, M.D. Robert Noel, M.D. Andrew J. Packer, M.D. Carmen A. Puliafito, M.D. Arnold R. Rabin, M.D. Claudia U. Richter, M.D. Charles H. Robinson, Jr., M.D. Susan H. Ryu, M.D. Alfredo A. Sadun, M.D. Delia N. Sang, M.D. Bradford J. Shingleton, M.D. Lois E. Smith, M.D. Frank A. Spellman, M.D. Roger F. Steinert, M.D. John H. TenPas, M.D. fra J. Udell, M.D. Jane Wang, M.D. Robert C. Ward, M.D.

Stuart R. Winthrop, M.D.

Research Fellows in **Ophthalmology**

Claudia Arrigg, M.D. David G. Birch, Ph.D. Antonia B. DeTineo, M.D. M. Kathryn Gillis, Ph.D. John R. Gonder, M.D. Ronald M. Hanson, Ph. D. Shigeru Kinoshita, M.D. Timothy C. Kiorpes, Ph.D. Laurie W. Raymond, M.D. David N. Smith, M.D. Michael D. Wagoner, M.D.

Clinical Instructors in Ophthalmology

Mark B. Abelson, M.D. John M. Carroll, M.D. Richard B. Chapman, M.D. Richard L. Dallow, M.D. Carl G. Freese, M.D. Albert R. Frederick, Jr., M.D. Elliot M. Finkelstein, M.D. Alexander R. Gaudio, M.D. John R. Gehring, M.D. Ralph H. Hinckley, M.D. Roland E. Houle, M.D. Eric C. Johnson, M.D. Joseph C. Kim, M.D. Joel A. Kraut, M.D. Brent W. Lambert, M.D. Robert C. Lawlor, M.D. Byron S. Lingenian, M.D. Ernst J. Meyer, M.D. Joseph Michon, Jr., M.D. Edward B. Murphy, Jr., M.D. George M. Olive, Jr., M.D. Irving L. Pavlo, M.D. Thomas M. Richardson, M.D. Perry Rosentlial, M.D. Baruch J. Sachs, M.D. John G. Sebestyen, M.D. Harvey H. Slansky, M.D. Paul F. Vinger, M.D. Donald R. Weis, M.D. Michael S. Wiedman, M.D.

Department of Otolaryngology

Walter Augustus LeCompte **Professor of Otology** and Laryngology

Harold F. Schuknecht, M.D.

Professor of Otolaryngology William W. Montgomery, M.D.

Associate Professor of Pathology Max L. Goodman, M.D.

Associate Professors of Otolaryngology Gerald B. Healy, M.D.

Daniel Miller, M.D. Marshall S. Strome, M.D.

Assistant Professors of Otolaryngology

Marvin P. Fried, M.D. James H. Kelly, M.D. M. Charles Liberman, Ph.D. Trevor J. I. McGill, M.D. Joseph B. Nadol, Jr., M.D. Aaron R. Thornton, Ph.D. William R. Wilson, M.D.

Assistant Clinical Professor of Otolaryngology Robert H. Lofgren, M.D.

Clinical Instructors in Otolaryngology

Barry J. Benjamin, M.D. Yale J. Berry, M.D. Elaine D. Carrol, M.D. Allan G. Edwards, M.D. Richard L. Fabian, M.D. Edward J. Glinski, M.D. William J. Hayden, M.D. Alfred L. Hurst, M.D. Edward E. Jacobs, M.D. Roy A. Johnson, M.D. Ely A. Kirschner, M.D. Thomas R. Klein, M.D. Robert E. Klotz, M.D. William G. Lavelle, M.D. Carl M. Lieberman, M.D. Jon B. Liland, M.D.* Joseph A. Moretti, M.D. Thomas J. Mulvaney, M.D. David E. Nash, M.D. Angelo Pappanikou, M.D. Rufus C. Partlow, M.D. Edward J. Reardon, M.D. Syed S. Rizvi, M.D. Howard G. Smith, M.D. Stephen A. Smith, M.D. John C. Trakas, M.D.

*Leave of absence

Lecturers on Otolaryngology

Werner D. Chasin, M.D. Richard R. Gacek, M.D. Robert S. Kimura, D.M.Sc. Walter A. Rosenblith, ING. RAD. Richard C. Webster, M.D.

Semior Research Associate in Otolaryngology

Nelson Y. S. Kiang, Ph.D.

Research Associate in Otolaryngology Terrance R. Bourk, Ph.D.

Research Fellows in Otolaryngology

Ken Kitamura, M.D. Daniel Pender, M.D. Ernst Richter, M.D. Shigeru Saijo, M.D. Naoko Shinozaki, M.D.

Principal Associate in Otolaryngology John W. Irwin, M.D.

Clinical Fellows in Otolaryngology

Peter S. Ambrus, M.D. Paul J. Carniol, M.D. Zeno N. Chicarilli, M.D. Louise DiGregorio, M.D. Roland D. Eavey, M.D. Mark S. Granich, M.D. Bradley Hall, M.D. Maynard C. Hansen, M.D. Martin L. Hopp, M.D. Steven B. Hopping, M.D. Michael P. Joseph, M.D. Michael J. Kaplan, M.D. Cameron J. Kirchner, M.D. Charles M. Norris, M.D. Hubert C. Patterson, M.D. Martin A. Shugar, M.D. Jeffrey V. Stein, M.D. David M. Vernick, M.D.

Medical Unit

Associate Clinical Professor of Medicine

Richard A. Field, M.D.

Assistant Professors of Medicine

Lloyd Axelrod, M.D. Ann S. Baker, M.D.

Clinical Associate in Medicine Gerald Dovle, M.D.

Instructors in Medicine F. Richard Bringhurst, M.D.

Research Fellow in Immunology

David M. Nathan, M.D.

Norman L. Letvin, M.D.

Research Fellows in Medicine

Perry G. Pate, M.D. Harry R. Phillips, M.D. Randall M. Zusman, M.D.

Department of Radiology

Associate Professor of Radiology Alfred L. Weber, M.D.

Assistant Professors of Radiology

Steven Hammerschlag, M.D. Daniel Kido, M.D. K. Jack Momose, M.D.

Professor Emeritus of Radiation Therapy

Milford D. Schulz, M.D.

Professors of Radiation Therapy

Herman D. Suit, M.D. Chiu-Chen Wang, M.D.

Department of Anesthesiology

Assistant Clinical Professor of Anesthesiology

Porter H. Smith, M.D.

Clinical Instructors in Anesthesiology

John V. Donlon, M.D.
Malcolm J. Heslop, M.D.
Jin Woo Kim, M.D.
Daniel W. Lang, M.D.
Kathryn E. McGoldrick, M.D.
Daniel Nozik, D.D.S.
Carl E. Rosow, M.D.
David I. Sonn, M.D.
Lily G. Tabbal, M.D.

Clinical Fellow in Anesthesiology

William E. Johnston, M.D.



One reason the founders held for establishing a public eye infirmary in Boston was so it could become a teaching center, for "fostering care and benevolence" among the medical gentry. The Infirmary's

formal link to Harvard Medical School began in 1869 with clinical instruction in Ophthalmology; the ear service's first formal affiliation was in 1870 when Clarence J. Blake, Harvard Medical School's Lecturer in Otology, began lecturing at MEEI.

The Meltzer Auditorium was formally dedicated in 1979 and has all the trappings of modern audio-visual technology. The auditorium offers exciting possibilities for nursing education, house staff training, continuing education conferences, and for community education programs. Cameras are being installed in two of the fourteen operating rooms and eventually it will be possible to view surgery as it is happening up in the sixth-floor operating rooms from a seat in the third-floor Meltzer.



Publications

October 1, 1978—September 30, 1979 Compiled by the Lucien Howe Library

Department of Ophthalmology Surgical and Research Staffs

- *ABELSON Mark B, Allansmith MR.:
 Histamine and the eye. Chapter
 65 in: Immunology and immunopathology of the eye: Proceedings
 of the Second International Symposium on the Immunology and
 Immunopathology of the Eye /
 edited by Arthur M. Silverstein
 and G. Richard O'Connor.—
 New York. Masson 1979. pp.
 151-6.
- ALBERT Daniel M, Craft J, Sang DN.: Ultrastructure of retinoblastoma: transmission and scanning electron microscopy. Chapter 18 in: Ocular and adnexal tumors / edited by Frederick A. Jakobiec.—Birmingham. Aesculapius, 1978. pp. 157-71.
- Albert Daniel M, SAARI JC.: Cellular retinol- and retinoic acid-binding proteins in transformed mammalian cells. Invest Ophthalmol Vis Sci 17:988-92, Oct 1978
- ALBERT Daniel M, Dunphy EB, Dryja TP, Smith TR.: Melanocytic tumor of the anterior uvea. Am J Ophthalmol 86:680-3, Nov 1978.
- ALBERT Daniel M, Sober AJ, Fitzpatrick TB.: Iritis in patients with cutaneous meIanoma and vertiligo. Arch Ophthalmol 96:2081-4, Nov 1978.
- Albert Daniel M, GUNDERSON T, Zakov ZN, Smith TR.: Choroidal melanocytic tumor observed for 41 years before enucleation. Arch Ophthalmol 96:2089-92, Nov 1978.
- ALBERT Daniel M, Buyukmihci N.;
 Tissue culture of the retinal pigment epithelium. Chapter 16 in:
 The retinal pigment epithelium /
 edited by Keith M. Zinn and
 Michael F. Marmor.—Cambridge. Harvard University
 Press, 1979. pp. 277-92.

- ALBERT Daniel M, Puliafito CA.: Foundations of oplithalmic pathology / edited by Daniel M. Albert and Carmen A. Puliafito.—New York. Appleton-Century-Crofts, 1979.
- Albert Daniel M, SUNDERMAN FW, Jr, et al.: Eye mulformations in rats: induction by prenatal exposure to nickel carbonyl. Science 203:550-3, Feb 2 1979.
- ALBERT Daniel M.: Toward resolving the ocular melanoma controversy. Arch Ophthalmol 97:451-2, Mar 1979.
- Albert Daniel M, LESSER RL, et al.: Creutzfeldt-Jacob disease and optic atrophy. Am J Ophthalmol 87:317-21, Mar 1979.
- ALBERT Daniel M, Zakov ZN, Smith TR.: Late diagnosis of choroidal malignant melanomas in eyes with clear media and low visual acuity. Ophthalmol 86:1037-47, Jun 1979.
- ALBERT Daniel M, Nordhund JJ, Lerner AB.: Ocular abnormalities occurring with vertiligo. Ophthalmol 86:1145-58, Jun 1979.
- Albert Daniel M, WEICHSELBAUM RR, Zakov ZN, et al.: New findings in the chromosome 13 longarm deletion syndrome and retinoblastoma. Ophthalmol 86:1191-8, Jun 1979.
- Albert Daniel M, RUSSELL P, Gregerson DS, Reid TW.: Characteristics of a retrovirus associated with a hamster melanoma. J Gen Virol 43:301, 1979.

- Albert Daniel M, PARK NH, Pavan-Langston D, McLean S.: Acyclovir in oral and ganglionic herpes simplex infections. J Infect Dis 140:285-94, 1979.
- Albert Daniel M, PARK NH, Pavan-Langston D.: Therapy of experimental herpes simplex encephalitis with acycloguanosine. Antimicrob Agents Chemother 15:775-9, 1979.
- Albert Daniel M (See CRAFT JL, DRYJA TP, KIM EW, LIU HS, RHU S, SANG DN, STOWE GC III, WONG S, ZAKOV ZN).
- Anderson PJ (See DOBBS PC).
- BELLOWS A Robert.: Cyclocryotherapy. Chapter 31 in: Glaucoma / edited by Paul A. Chandler and W. Morton Grant.—2nd ed.—PhiladeIphia. Lea and Febiger, 1979. pp. 311-5.
- BELLOWS A Robert, Chylack LT, Epstein DL, Hutchinson BT.: Choroidal effusion during glaucoma surgery in patients with prominent episcleral vessels. Arch Ophthalmol 97:493-7, Mar 1979.
- Bellows A Robert (See CHAUDHRY HA).
- BERSON Eliot L, Schmidt SY, Shih VE.: Ocular and biochemical abnormalities in gyrate atrophy of the choroid and retina. Ophthalmol 85:1018-27, Oct 1978.
- BERSON Eliot L, Rosen JB, Siminoff
 EA.: Electroretinographic testing as an aid in detection of carriers of x-chromosome-linked retinitis pigmentosa. Am J
 Ophthalmol 87:460-8, Apr
 1979.
- BERSON Eliot L, Siminoff EA.:

 Dominant retinitis pigmentosa
 with reduced penetrance. Arch
 Ophthalmol 97:1286-91, Jul
 1979.
- Berson Eliot L (See SANDBERG M, SZAMIER RB).
- BEYER Charles K.: Canalicular injuries. Clin Plast Surg 5:547-60, Oct 1978.
- BEYER Charles K.: Reconstruction of the orbit and contracted socket. Chapter 27 in: Tumors of the ocular adnexa and orbit / edited by Albert Hornblass.—St. Louis. Mosby, 1979. pp. 290-9.
- BEYER Charles K.: Lid and canicular trauma. Chapter 7 in: Ocular trauma / edited by H. MacKenzie Freeman.—New York.
 Appleton-Century-Crofts, 1979. pp. 71-80.

^{*}First author in capitals.

BEYER Charles K, Frankel J.: Double wedge resection for severe involutional ectropion. Ophthalmic Surg 10:36-9, Mar 1979.

BOGER William P III.: Beta adrenergic blocking agents and glaucoma; a review. J Cont Ed Ophthalmol 14-31, Nov 1978.

Boger William P III, ZIMMERMAN TJ.: Review: The beta-adrenergic blocking agents and the treatment of glaucoma. Surv Ophthalmol 23:347-62, May-Jun, 1979.

BOGER William P III.: The treatment of glaucoma; role of betablocking agents. Drugs 18:25-32, Jul 1979. Also in: Curr Ther 20:115-25, 1979.

BORUCHOFF S Arthur.: The thin and perforated cornea. Chapter 15 in: Ocular trauma / edited by H. MacKenzie Freeman.—New York. Appleton-Century-Crofts, 1979. pp. 133-7.

BROCKHURST Robert J.: The retina. Chapter 22 in: Surgery of the infant eye / edited by Marvin L. Kwitko.—New York. Appleton-Century-Crofts, 1979. pp. 401-52

BROCKHURST Robert J.: Notes, cases and instruments: retractor for retinal detachment surgery. Am J Ophthalmol 87:574, Apr 1979.

Brockhurst Robert J (See Trempe CS). Carroll John M (See GRAGOUDAS

CHANDLER Paul A. Grant WM.: Glaucoma / edited by Paul A. Chandler and W. Morton Grant.—2nd ed. — Philadelphia. Lea and Febiger, 1979.

CHANDLER Paul A, Simmons RJ, Kimbrough RL.: Shell tamponade in filtering surgery for glaucoma. Ophthalmic Surg 10:17-34, Sep 1979.

CHANDRA Suresh R, McMeel JW, Field RA.: Conjunctival capillary fragility. Arch Ophthalmol 97:749-51, Apr 1979. CHANG Stanley, Dallow RL, Coleman DJ.: Ultrasonic evaluation of intraocular tumors. Ultrasonic evaluation of orbital disorders. Chapter 27 and 28 in: Ocular and adnexal tumors / edited by Frederick A. Jacobiec.—Birmingham. Aesculapius, 1978. pp. 281-310. 311-40.

CHAUDHRY Hashmat A, Dueker DK, Simmons RJ, Bellows AR, Grant WM.: Scanning electron microscopy of trabeculectomy specimens in open-angle glaucoma. Am J Ophthalmol 88:78-92, Jul 1979.

CHU Wing, Pavan-Langston D.: Ocular surface manifestations of the major viruses. Internat Ophthalmol Clin 19:135-67, Summer 1979.

Chylack Leo T Jr, BURNS CL.: Thermal burns: the management of thermal burns of the lids and globes. Ann Ophthalmol 11:1358-68, Sep 1979.

Chylack Leo T Jr (See BELLOWS AR, GREINER JV).

CRAFT Joseph L, Robinson NL, Roth NA, Albert DM.: Scanning electron microscopy of retinoblastoma. Exp Eye Res 27:519-31, Nov 1978.

Craft Joseph L (See ALBERT DM, KIM EW, STOWE GC III).

COGAN David G.: Updating the inborn errors of metabolism affecting the retina. Trans Pac Coast Otoophthalmol Soc 59:23-37, 1978.

Cogan David G, KARP LA, Streeten BW.: Radiation-induced atrophy of the meiomian glands. Arch Ophthalmol 97:303-5, Feb 1979.

Cogan David G, CHU FC, Reingold DB, Williams AC.: The eye movement disorders of progressive supranuclear palsy. Ophthalmol 86:422-8, Mar 1979.

COGAN David G.: Visuospatial dysgnosia. Am J Ophthalmol 88:361-8. Sep 1979.

COGAN David G.: Some neuroophthalmic syndromes. Trans Penn Acad Ophthalmol Otolaryngol 32:130-8, 1979.

COGAN David G, Toussaint D, Kuwabara T.: Retinal vascular patterns. IV. Diabetic retinopathy. Chapter in: Foundations of ophthalmic pathology / edited hy Daniel M. Albert and Carmen A. Puliafito.—New York. Appleton-Century-Crofts, 1979. pp. 262-73. Cogan David G (See SIMMONS RJ). COHEN Howard B, McMeel JW, Franks EP.: Diabetic traction detachment. Arch Ophthalmol

97:1268-72, Jul 1979.

DAHLEN Kjell, Epstein David L, Grant WM, Hutchinson BT, et al.: A repeated dose-response study of methazolamide in glaucoma. Arch Ophthalmol 96:2214-8, Dec 1978.

DALLOW Richard L.: Reliability of orbital diagnostic tests: ultrasonography, computerized tomography, and radiography. Ophthalmol 85:1218-28, Nov 1978.

DALLOW Richard L, Coleman DJ.:
Ultrasound in orbital diagnosis.
Chapter 21 in: Tumors of the ocular adnexa and orbit / edited by
Albert Hornblass.—St. Louis.
Mosby, 1979. pp. 226-39.

Dallow Richard L (See CHANG S, HESSELINK JR, KLEPACH GL).

DOBBS Paula C, Epstein DL, Anderson PJ.: Identification of isoenzyme C as the principal carbonic anhydrase in human ciliary processes. Invest Ophthalmol Vis Sci 18:867-70, Aug 1979.

DOHLMAN Claes H.: Punctal occlusion in keratoconjunctivitis sicca. Ophthalmol 85:1277-81, Dec 1978.

Dohlman Claes H, FOULKS G, Perry H.: Oversize corneal donor grafts in penetrating keratoplasty. Ophthalmol 85:1277-81, Dec 1978.

DOHLMAN Claes H.: Corneal epithelium in disease. In: XXIII Concilium Ophthalmologicum, Kyoto, Japan, 1978. Part I. pp. 265-8.

Dohlman Claes H (See DONSHIK PC, THOFT RA, ZAKOV ZN).

DRYJA Thaddeus P, O'Neil-Dryja M, Albert DM.: Elemental analysis of melanins from hovine hair, iris, choroid, and retinal pigment epithelium. Invest Ophthalmol Vis Sci 18:231-6, Mar 1979.

Dryja Thaddeus P (See DUNPHY EB).

DUEKER David D.: Neovascular glaucoma. Chapter 23 in: Glaucoma / edited by Paul A. Chandler and W. Morton Grant.—2nd ed.—Philadelphia. Lea and Febiger, 1979. pp. 258-66.

Dueker David D (See CHAUDHRY HA).

DUNPHY Edwin B, Dryja TP, Albert DM, Smith TR.: Melanocytic tumor of the anterior uvea. Am J Ophthalmol 86:680-83, Nov 1978. Effron Marc H (See SANDBERG MA).

EPSTEIN David L, Grant WM.: Management of carbonic anhydrase inhibitor side effects. In: Symposium on ocular therapy, vol. 11/edited by I. H. Leopold and R.P. Burns.—New York, Wiley, 1979. pp. 51-64.

EPSTEIN David L.: Carbonic anhydrase inhibitors. Section of Chapter 4 in: *Glaucoma* / edited by Paul A. Chandler and W. Morton Grant.—2nd ed.—Philadelphia. Lea and Febiger, 1979. pp. 84-7.

EPSTEIN David L.: Pigment dispersion and pigmentary glaucoma.
Lens-induced glaucoma.
Chapters 8 and 20 in: Glaucoma / edited by Paul A. Chandler and W. Morton Grant.—2nd ed.—Philadelphia. Lea and Febiger, 1979. pp. 122-29, 216-23.

Epstein David L (See BELLOWS AR, DAHLEN K, DOBBS PC).

FOSTER C Stephen, Goetzl EJ.:
Ascorbate therapy in impaired
neutrophil and monocyte chemotaxis. Arch Ophthalmol
96:2069-72, Nov 1978.

FOSTER C Stephen, Yamamoto GK.: Ocular rigidity in keratoconus. Am J Ophthalmol 86:802-6, Dec 1978.

FOSTER C Stephen, Allansmith MR.: Lack of blood group antigen A on human corneal endothelium. Am J Ophthalmol 87:165-70, Feb 1979.

FOSTER C Stephen, English J.: Coping with blindness: the importance of the ophthalmologist in referral. J Vis Impair Blindness 193, May 1979.

FOSTER C Stephen.: Ocular surface manifestations of neurological and systemic disease. In: Internat Ophthalmol Clin 19:207-42, Summer 1979.

FOSTER C Stephen, Kenyon KR, Greiner JV et al.: The immunopathology of Mooren's ulcer. Am J Ophthalmol 88:149-59, Aug 1979.

FOSTER C Stephen, Stefanyszyn M.: Intraocular penetration of miconazole in rabbits. Arch Ophthalmol 97:1703-6, Sep 1979. FOSTER C Stephen, Allansmith MR.: Lack of blood group antigen A on human corneal endothelium. Chapter 29 in: Immunology and immunopathology of the eye / edited by Arthur M. Silverstein and G. Richard O'Connor.—New York, Masson, 1979, pp. 151-6.

Foster C Stephen (See LAMBERTS DW, MOBILIA EF).

FREDERICK Albert R, Hutchinson BT.: Ocular emergencies. Chapter in: MGH textbook of emergency medicine / edited by Earl W. Wilkus.—Baltimore. Williams and Wilkins, 1978. pp. 658-77.

FREEMAN H MacKenzie.: Fellow eyes of giant retinal breaks. Thesis. Trans Am Ophthalmol Soc LXXVI: 343-82, 1978.

FREEMAN H MacKenzie, McDonald PR, Scheie HG.: Examination of the traumatized eye and adnexa. Chapter 1 in: Ocular trauma / edited by H, MacKenzie Freeman.—New York, Appleton-Century-Crofts, 1979, pp. 1-13.

Freeman H MacKenzie, COX MS.:
Traumatic retinal detachment.
Chapter 30 in: Ocular trauma /
edited by H. MacKenzie Freeman.—New York. AppletonCentury-Crofts, 1979, pp.
285-93.

FREEMAN H MacKenzie.: Ocular trauma / edited by H. MacKenzie Freeman.—New York. Appleton-Century-Crofts, 1979.

Freeman H MacKenzie (See TOLEN-TINO FI).

FRIBERG Thomas R, Gragoudas ES, Regan CDJ.: Talc emboli and macular ischemia in intravenous drug abuse. Arch Ophthalmol 97:1089-91, Jun 1979.

FRIBERG Thomas R.: Traumatic retinal pigment epithelial edema. Am J Ophthalmol 88:18-21, Jul 1979.

Garcia George E.: (See SLOANE AE).

GARCIA George E.: Keratometry.
Introduction to contact Ienses.
Chapters 21 and 22 in; Manual
of refraction / edited by Albert E.
Sloane and George E. Garcia.—
3rd ed.—Boston. Little, Brown,
1979. pp. 189-95, 197-205.

GORN Robert A.: The detrimental effect of aspirin on hyphema rebled. Ann Ophthalmol 11:351-55, Mar 1979.



Prior to 1872, surgeons were only in attendance during clinic hours. Day and night, as was enstomary in those day, "matrons" not only administered nursing care, but also super-

vised employees, purchased supplies, cooked, cleaned and mended. It was not until the late 1800s that formal training for nurses was initiated in the United States. GRAGOUDAS Evangelos S.: Proton radiation of choroidal malignant melanomas. Chapter 11 in: Ocular and adnexal tumors / edited by Frederick A. Jacobiec.—Birmingham. Aesculapius, 1978. pp. 88-96.

Gragoudas Evangelos S, DUCREY NM, Delori FC.: Monochromatic ophthalmoscopy and fundus photography. H. The pathological fundus, Arch Ophthalmol 97:288-93, Feb 1979.

Gragoudas Evangelos S, DELORI FC.: Light sources for monochromatic ophthalmoscopy and fluorescein angiography. Arch Ophthalmol 97: 1349-50, Jul

GRAGOUDAS Evangelos S, Carroll JM.: Multiple choroidal metastasis from bronchial carcinoid treated with photocoagulation and proton beam irradiation. Am J Ophthalmol 87:299-304, Mar 1979.

GRAGOUDAS Evangelos S et al.: Proton irradiation of malignant melanomas of the ciliary body. Br J Ophthalmol 63:135-9, Feb

Gragoudas Evangelos S (See FRI-BERG TR, HEDGES TR III).

Grant W Morton (See CHANDLER PA, CHAUDHRY HA, DAH-LEN K).

GREINER Jack V, Chylack LT Jr.: Posterior subcapsular cataracts. Histopathologic study of steroidassociated cataracts. Arch Ophthalmol 97:135-44, Jan 1979.

Greiner Jack V, ALLANSMITH MR.
Baird RS.: Vernal conjunctivitis
and contact lens associated giant
papillary conjunctivitis compared and contrasted. Am J
Ophthalmol 87:544-55, Apr
1979.

GREINER Jack V, Covington HI, Allansmith MR.: The human limbus: a scanning electron microscopic study. Arch Ophthalmol 97:1159-65.

Greiner Jack V, ALLANSMITH MR.
Baird RS.: Contact lens-associated giant papillary conjunctivitis as a model for vernal conjunctivitis. Chapter 61 in:
Immunology and immunopathology of the eye / edited by
Arthur M. Silverstein and G.
Richard O'Connor.—New York.
Masson, 1979, pp. 346-9.

GRIFFIN John F, Momose KJ, Wray SH.: Optic canal fractures after rhinologic surgery. Am J Ophthalmol 87:526-29, Apr 1979. GROVE Arthur S, Tadmore R,
Momose KJ, New PFJ.: Computerized tomography for evaluation of fractures and foreign bodies of the orbit. In: Proceedings of the Third International Symposium on Orbital Disorders / edited by the Orbital Center of the Amsterdam University Eye Hospital et al.—The Hague. Dr. W. Junk. 1978. pp. 130-9.

GROVE Arthur S Jr.: Coronal computed tomography (CCT) of the orbit. Chapter 26 in: Ocular and adnexal tumors / edited by Frederick A. Jacobiec.—Birmingham. Aesculapius, 1978. pp. 271-80.

GROVE Arthur S Jr.: Orbital diagnosis. Head Neck Surg 2:12-24. Sep-Oct 1979.

HEDGES Thomas R III, Sinclair SH. Gragoudas ES.: Evidence for vasculitis in acute posterior multifocal placoid pigment epitheliopathy. Ann Ophthalmol 11:539-42. Apr 1979.

11:539-42. Apr 1979. Hirose Tatsuo, MIYAKE Y et al.: Clinical application of a digital computer software system to electrodialysis. Ophthalmic Res 10:268-78, 1978.

Hirose Tatsuo, LIBERFARB RM, Holmes LB.: The Wagner-Stickler Syndrome—a genetic study. Birth Defects 15:145-54, 1979.

HIROSE Tatsuo, Miyake Y.: Pigmentary paravenous chorioretinal degeneration: fundus appearance and retinal functions. Ann Ophthalmol 11:709-18, May 1979

HIROSE Tatsuo, Miyake Y, Hara A.:
Evaluation of severe ocular
trauma: electroretinogram and
visual evoked response. Chapter
4 in: Ocular trauma / edited by
H. MacKenzie Freeman.—New
York, Appleton-Century-Crofts,
1979, pp. 31-53.

HIROSE Tatsuo, Schepens CL.: Posterior segment reconstruction with open-sky vitrectomy in late complications of ocular trauma. Chapter 28 in: Ocular trauma / edited by H. MacKenzie Freeman.—New York. Appleton-Century-Crofts, 1979. pp. 263-270.

Hirose Tatsuo (See YOSHIZUMI MO).

*First author in capitals.



Nurses today are an integral part of the health care team of professionals. The average Mass. Eye and Ear nurse has had three years of patient care experience in our

specialties and each is specially prepared to care for patients with sensory impairments. More than 120 RNs and LPNs are assisted by about 60 in-service trained nursing aides and orderlies.

- IIUTCHINSON B Thomas.: Cataract extraction from below after filtering surgery. Excision of pupillary membranes without the rotoextractor. Postoperative suprachoroidal hemorrhage. Chapters in: Curveut concepts in cataract surgery. Selected proceedings of the Fifth Biennial Cataract Surgical Congress / edited by Jared M. Emery.—St. Louis. Mosby, 1978. pp. 276-8, 438-9, 462-3.
- HUTCHINSON B Thomas.: Postoperative choroidal hemorrhage. Chapter 32 in: *Glaucoma /* cdited by Paul A. Chandler and W. Morton Grant.—2nd ed.— Philadelphia. Lea and Febiger, 1979. pp. 316-7.

Hutchinson B Thomas (See BEL-LOWS AR, DAHLEN K, FRED-ERICK AR).

- HUTCHISON David S, Smith TR.: Ocular and orbital metastatic earcinoma. Ann Ophthalmol 11:869-73, Jun 1979.
- KENYON Kenneth R.: Anatomy and pathology of the ocular surface. Recurrent corneal erosion: pathogenesis and therapy. In: Internat Ophthalmol Clin 19:3-35. 169-95, Summer 1979.

Kenyon Kenneth R (See FOSTER CS)

- KIM Edward W, Zakov ZN, Albert DM, Smith TR, Craft JL.: Intraocular reticulum cell sarcoma: a case report and literature review. Albrecht von Graefes Arch Clin Exp Ophthalmol 209:167-78, 1979.
- KLEPACH Garron L, Wray SH, Roberson GH, Dallow RL.: Bilateral dural arteriovenous malformations simulating dysthyroid ophthalmopathy. Ann Ophthalmol 10:1519-23, Nov 1978.
- KRAUT Joel A.: The low-vision examination. Chapter 19 in: Manual of Refraction / edited by Albert E. Sloane and George E. Garcia.—Boston. Little, Brown, 1979. pp. 173-84.

LAMBERTS David W, Foster CS, Perry HD.: Schirmer test after topical anesthesia and the tear meniscus height in normal eyes. Arch Ophthalmol 97:1082-5, Jun 1979.

LASS Jonathan H., Pavan-Langston D.: Timolol therapy in secondary angle-closure glaucoma post penetrating keratoplasty. Ophthalmol 86:51-9, Jan 1979.

LASS Jonathan H, Pavan-Langston D, Park NH.: Aciclovir and corneal wound healing. Am J Ophthalmol 88:102-8, Jul 1979. Lass Jonathan H (See PAVAN-LANGSTON D.)

LlU Hsiao S, Refojo MF, Perry HD. Albert DM.: Direct delivery of anticancer agents: experimental treatment of intraocular malignancy. Invest Ophthalmol Vis Sci 17:993-1004, Oct 1978.

MCMEEL J Wallace.: The treatment of diabetic retinopathy. Perspect Ophthalmol 2:275-90, Dec 1978.

McMeel J Wallace (See CHANDRA SR. COHEN HB).

Miller David, BEARSE M et al.: Improved lensometry with a programmed calculator lensometer combination. Surv Ophthalmol 23:196-9, Nov-Dec 1978.

MILLER David.: Physical optics and the eye. Vol. I Chapter 31 in: Clinical Ophthalmology / edited by Thomas Duane.—New York. Harper and Row, 1978.

MHLLER David.: Perspectives in refraction: on understanding the optics of intraocular lenses. Surv Ophthalmol 24:39-44, Jul-Aug 1979.

MILLER David.: Optical features of the ocular surface. Internat Ophthalmol Clin 19:37-52, Summer 1979.

MILLER David.: Ophthalmology: the essentials / David Miller.— Boston. Houghton Mifflin, 1979.

MILLER David.: A new microsurgical corneal trephine. Ophthalmic Surg 10:55-7, 1979.

MOBILIA Eleanor F. Foster CS.: A one-year trial of polycon lenses in the correction of keratoconus. Contact and Intraoc Lens Mcd J 5:37-42, Jul-Sep 1979.

PAVAN-LANGSTON Deborah. Campbell R, Lass J.: Acyclic antimetabolite therapy of experimental herpes simplex kerativitis. Am J Ophthalmol 86:618-23, Nov 1978.

Pavan-Langston Deborah, PARK NH, Albert DM.: Acyclovir in oral and ganglionic herpes simplex infections. J Infect Dis 140:285-94, 1979.

PAVAN-LANGSTON Deborah, Lass J, Campbell R.: Antiviral drops; comparative therapy of experimental herpes simplex keratouveitis. Arch Ophthalmol 97:1132-5, Jun 1979.

PWAN-LANGSTON Deboralr, Nelson DJ.: Intraocular penetration of trifluridine. Am J Ophthalmol 87:814-8, Jun 1979.

Pavan-Langston Deborah, PARK NH. Albert DM, McLean SL.: Therapy of experimental herpes simplex encephalitis with acycloguanosine. Antimicrob Agents Chemother 15:775-9, Jun 1979.

PAVAN-LANGSTON Deborah, Park NH, Lass J.: Herpetic ganglionic latency. Acyclovir and vidarabine therapy. Arch Ophthalmol 97:1508-10. Aug 1979.

PAVAN-LANGSTON Deborah.:
Major ocular viral infections.
Chapter in: Antivirals and medicine / edited by G. Galasso, T.
Merrigan, R. Buchanan.—New
York. Raven Press, 1979. pp.
253-305.

PAVAN-LANGSTON Deborah.: Varicella. In: *Current ocular therapy* / edited by F. Fraunfelder.— Philadelphia. Saunders, 1979.

Pavan-Langston Deborah, LIABSON P.: Triflurothymidine in the treatment of herpes simplex keratitis. Chapter 7 in: Syuposium ou ocular therapy, vol 11 / edited by I.H. Leopold and Robert P. Burns.—New York. Wiley. 1979. pp. 77-84.

Pavan-Langston Deborah (See CHU W. LASS J).

- Pihlaja Donovan J, CAVANAGH HD, Colley A.: Persistent corneal epithelial defects. In: Internat Ophthalmol Clin 19:197-206, Summer 1979.
- POLLEN Abraham.: The heterophorias. Chapter 23 in: Manual of Refraction / edited by Albert E. Sloane and George E. Garcia.—3rd ed.—Boston, Little, Brown, 1979. pp. 207-23.

PRUETT Ronald C.: Traumatic maculopathies. Chapter 32 in: Ocular trauma / edited by H. MacKenzie Freeman.—New York. Appleton-Century-Crofts. 1979. pp. 301-21.

Puliafito Carmen A (See ALBERT DM).

Regan Charles DJ (See FRIBERG TR).

- RHU Susan, Albert DM.: Evaluation of tumor angiogenesis factor with the rabbit cornea model. Invest Ophthalmol Vis Sci 18:831-9, Aug 1979.
- Riva Charles E (See SINCLAIR SH).
 ROBB Richard M, Ervin LD, Sallen
 SE.: A pathological study of eye
 involvement in acute leukemia
 of childhood, Trans Am Ophthalmol Soc LXXVI:90-101, 1978.

Robb Richard M. SHERIDAN SJ.: Optic nerve hypoplasia with diabetes insipidus. J Pediatr Ophthalmol Strabismus 15:82-4, Mar-Apr 1978.

- Robb Richard M, SILVER J.: Studies on the development of the eye cup and optic nerve in normal mice and in mutants with congenital optic nerve aplasia. Dev Biol 68:175-9, Jan 1979.
- Robb Richard M, DENSLOW GT.: Aicardi's syndrome: a report of four cases and review of the literature. J Pediatr Ophthalmol Strabismus 16:10-5, Jan-Feb 1979.
- ROBB Richard M, Ervin LD, Sallan SE.: An autopsy study of eye involvement in acute leukemia of childhood. Med Pediatr Oncol 6:171-7, 1979.
- Robinson Nancy L (See CRAFT JL). Rosen Jo Bernice (See BERSON EL). Roth Nancy L (See CRAFT JL).
- SANDBERG Michael A, Effron MH, Berson EL.: Focal cone electroretinograms in dominant retinitis pigmentosa with reduced penetrance. Invest Ophthalmol Vis Sci 17:1096-1101, Nov 1978.
- SANDBERG Michael A, Effron MH.:
 Visually evoked cortical potentials in children with hereditary macular degenerations. In:
 Visual psychophysics and physiology / edited by J.C. Armington, J. Krauskopf, and B.R.
 Wooten.—New York. Academic Press, 1978. pp. 463-7.
- SANG Delia N, Albert DM.: Immunologic considerations in retinoblastoma. Catacholamine levels in retinoblastoma. Chapters 17 and 19 in: Ocular and adnexal tumors / edited by Frederick A. Jakobiec.—Birmingham.

 Aesculapius, 1978. pp. 145-56, 172-80.
- Sang DN (See ALBERT DM).
- SCHEPENS Charles L.: Clinical aspects of pathologic changes in the vitreous body. Chapter in: Foundations of opthalmic pathology / edited by Daniel M. Albert, Carmen A. Puliafito.—New York, Appleton-Century-Crofts, 1979, pp. 634-47.
- SCHEPENS Charles L.: Pathogenesis of traumatic rhegmatogenous retinal detachment. Chapter 29 in: Ocular trauma / edited by H. MacKenzie Freeman.—New York. Appleton-Century-Crofts, 1979. pp. 273-84.

- SCHMIDT Susan Y.: Biochemical findings in some animals with retinal degenerations. Metabol Ophthalmol 2:247-50, 1978.
- Schmidt Susan Y (See BERSON EL).
- SIMMONS Richard J.: Free cells in the aqueous and their possible importance in glaucoma. Doc Ophthalmol Proc Series 16:47-51, 1978.
- SIMMONS Richard J, Kimbrough RL.: A modified cyclodialysis spatula. Ophthalmic Surg 10:67-8, Feb 1979.
- SIMMONS Richard J, Kimbrough RL.: Late glaucoma after trauma.Chapter 20 in: *Ocular* trauma / edited by H. MacKenzie Freeman.—New York. Appleton-Century-Crofts, 1979. pp. 167-76.
- SIMMONS Richard J, Cogan DG.:
 Occult temporal arteritis.
 Chapter in: Foundations of
 opluthalmic pathology / edited by
 Daniel M. Albert, Carmen A.
 Puliafito.—New York, Appleton-Century-Crofts, 1979. pp.
 291-301.
- SIMMONS Richard J.: Malignant glaucoma. Angle-closure glaucoma after scleral buckling operations for separated retina. Filtering operations. Chapters 11, 12, 29 in: *Glaucoma /* edited by Paul A. Chandler and W. Morton Grant.—2nd cd.—Philadelphia. Lea and Febiger, 1979. pp. 172-82, 183-86, 287-306.
- SIMMONS Richard J.: Nanophthalmos, diagnosis and treatment. Primary open-angle glaucoma and cataract. Syndrome of closure of the cyclodialysis cleft. Sections in: *Glaucoma |* edited by Paul A. Chandler and W. Morton Grant.—Philadelphia. Lea and Febiger, 1979. pp. 63-6, 101-09, 309-10.
- Simmons Richard J (See CHANDLER PA, CHAUDHRY HA, TREMPE CS).
- Siminoff Emily A (See BERSON EL). SINCLAIR Stephen H, Loebl M, Riva CE.: Blue field entoptic phenomenon in cataract patients. Arch Ophthalmol 97:1092-5, Jun 1979.
- Sinclair Stephen H (See HEDGES TH III).

- SLOANE Albert E and Garcia GE.: Editor and author of various chapters in: *Manual of refraction* / edited by Alfred E. Sloane and George E. Garcia.—3rd ed.— Boston. Little, Brown, 1979.
- Smith Taylor R, DOWLING JL.: An ocular study of pulseless disease. Chapter in: Foundations of ophthalmic pathology / edited by Daniel M. Albert, Carmen A. Puliafito.—New York. Appleton-Century-Crofts, 1979. pp. 315-22.
- Smith Taylor R (See Albert DM, ALBERT DM, DUNPHY EB, HUTCHISON DS, KIM EW, ZAKOV ZN).
- SNYDER Charles.: The founding and early years of the Massachusetts Eye and Ear Infirmary. Surv Ophthalmol 23:323-31, Mar-Apr 1979.
- SNYDER Charles.: Studies on the history of the Massachusetts Charitable Eye and Ear Infirmary, vols. I and II / Charles Snyder.—Boston, 1979.
- STOWE G Cleveland III, Zakov ZN, Albert DM.: Central retinal vascular occlusion associated with oral contraceptives. Am J Ophthalmol 86:798-801, Dec 1978.
- SZAM1ER R Bruce, Berson EL, Klein R, Meyers S.: Sex-linked retinitis pigmentosa: ultrastructure of photoreceptors and pigment epithelium. Invest Ophthalmol Vis Sci 18:145-60, Feb 1979.
- THOFT Richard A.: Role of the ocular surface in destructive corneal disease. Trans Ophthalmol Soc U K.: 98:339-42, 1978.
- THOFT Richard A, Friend J, Murphy HS.: Ocular surface epithelium and corneal vascularization in rabbits. I. The role of wounding. Invest Ophthalmol Vis Sci 18:85-92, Jan 1979.
- Thoft Richard A., FOULKS GN, Perry HD, Tolentino F1.: Factors related to corneal epithelial complications after closed vitrectomy in diabetics. Arch Ophthalmol 97:1076-8, Jun 1978.
- THOFT Richard A.: Conjunctival transplantation as an alternative to keratoplasty. Ophthalmol 86:1084-91, Jun 1979.
- THOFT Richard A, Friend J, Kenyon KR.: Ocular surface response to trauma. Internat Ophthalmol Clin 19:111-31, Summer 1979.

- THOFT Richard A.: Chemical and thermal injury. Surface rehabilitation. Internat Ophthalmol Clin 19:243-56, 257-74, Summer 1979.
- THOFT Richard A, Friend J.: The ocular surface / edited by Richard A Thoft, J Friend. International Ophthalmology Clinics 19, Summer 1979.
- THOFT Richard A, Dohlman CH.: Chemical and thermal burns of the eye. Chapter 14 in: Ocular trauma / edited by H. MacKenzie Freeman.—New York. Appleton-Century-Crofts, 1979. pp. 125-32.
- THOMAS John V, Green WR, Maumenee E.: Small choroidal melanomas, a long-term follow-up study. Arch Ophthalmol 97:861-4, May 1979.
- THOMAS John V, Green WR.: Conjunctivitis. Keratitis. Localized intraocular infections, endophthalmitis and panophthalmitis. Periocular infections. Chapters 85, 86, 87, 88 in: Principles and practice of infectious diseases / edited by G.L. Mandell, R.G. Douglas, J.E. Bennett.—New York. Wiley, 1979.
- Thomas John V (See YOSH1ZUM1 MO).
- TOLENTINO Felipe I, Liu HS, Freeman HM.: Closed vitrectomy in penetrating ocular injury: an experimental study in rabbits. Chapter 47 in: Ocular trauma / edited by H. MacKenzie Freeman.—New York, Appleton-Century-Crofts, 1979. pp. 447-52.
- Tolentino Felipe I (See Thoft RA).
 Trempe Clement S, KIMBROUGH
 RL, Brockhurst RJ, Simmons
 RJ.: Angle-closure glaucoma in
 nanophthalmos. Am J Ophthalmol 88:572-9, Sep 1979.
- Walton David S, LEVY HL et al.:
 Galactose-1-phosphate uridyl
 transferase deficiency due to
 Duarte/galactosemia combined
 variation: clinical and biochemical studies. J Periatr 92:390-3,
 Mar 1978.
- WALTON David S.: Part IV: Diagnosis and treatment of glaucoma in childhood. Chapters 33-43 in: Glaucoma / edited by Paul A. Chandler and W. Morton Grant.—2nd ed.—Philadelphia. Lea and Febiger, 1979. pp. 321-70.
- WONG Susan, Zakov ZN, Albert DM.: Scleral and choroidal calcifications in a patient with pseudohypoparathyroidism. Br J Ophthalmol 63:177-80, Mar 1979.

Wray Shirley H (See GRIFFIN JF, KLEPACH GL).

Yamamoto Gilbert K (See FOSTER CS).

YOSHIZUMI Marc O, Thomas JV, Hirose T.: Foveal hypoplasia and bilateral 360-degree peripheral retinal rosettes. Am J Ophthalmol 87:186-92, Feb 1979.

ZAKOV Z Nicholas, Dohlman CH, Perry HD, Albert DM.: Corneal donor material selection, Am J Ophthalmol 86:605-10, Nov 1978.

ZAKOV Z Nicholas, Smith TR, Albert DM.: False-positive 32P uptake tests. Arch Ophthalmol 96:2240-3, Dec 1978.

Zakov Z Nicholas (See ALBERT DM, KIM EW, STOWE GC III, WONG S).

Department of Otolaryngology Surgical and Research Staffs

*Beil Deborah G (See LIBERMAN MC).

BURTNER David D, Goodman ML.: Anesthetic and operative management of potential upper airway obstruction. Arch Otolaryngol 104:657-61, Nov 1978.

Delgutte Bertrand (See KIANG NYS). Eddington Donald K (See KIANG NYS).

Fabian Richard L (See MONTGO-MERY WW).

GOODMAN Max L, Way BA, Irwin JW.: The inflammatory response to endotoxin. J Pathol 128:7-14, May 1979.

Goodman Max L, ELMAN AJ, Pilch BZ et al.: In situ carcinoma of the vocal cords. Cancer 43:2422-8, Jun 1979.

GOODMAN Max L, Way BA, Irwin JW.: The inflammatory response to anaphylaxis and intravenous antibody or antigen. Virchows Arch (Pathol Anat) 383:271-82, 1979

GOODMAN Max L, Way BA, Irwin JW.: Systematic anaphylaxis. Bibl Anat 17:136-43, 1979.

Goodman Max L (See BURTNER DD, KELLY JH, MOMOSE KJ).

Guinan John J Jr (See WARR WB). HARBIN William, Weber AL.: X-ray of the month: Rhinoliths. Ann Otol Rhinol Laryngol 88:578-9, Jul-Aug 1979.

HOLTON Thomas, Weiss TF.: Twotone rate suppression in lizard cochlear nerve fibers: relation to receptor organ morphology. Brain Res 159:219-22, Jan 1979. Irwin John W, HAUCK G.: Microcirculation in inflammation. Bibliotheca Anatomica, no. 17/edited by G. Hauck and John W. Irwin, 1979.

IRWIN John W, Way B.: Inflammation. Bibl Anat 17:72-3, 1979.
Irwin John W (See GOODMAN ML).
Jones Diane D (See SCHUKNECHT HF).

KELLY James H, Montgomery WW, Goodman ML, Mulvaney TJ.: Upper airway obstruction associated with regional enteritis. Ann Otol Rhinol Laryngol 88:95-9, Jan-Feb 1979.

Kelly James H (See WEBER AL). KIANG Nelson Y-S, Eddington DK, Delgutte B.: Fundamental considerations in designing auditory implants. Acta Otolaryngol 187:204-18, Mar-Apr 1979.

Klein Thomas R (See WEBER AL). Lavelle William G (See MONTGO-MERY WW).

LIBERMAN M Charles, Beil DG.: Hair cell condition and auditorynerve response in normal and noise-damaged cochleas. Acta Otolaryngol 88:161-76, Sep-Oct 1979.

MILLER Daniel et al.: Cancer of oral cavity, upper alimentary tract, and respiratory tract. Chapter in: Cancer, a manual for practitioners / edited by Thomas W. Botsford et al.—5th ed.—Boston. American Cancer Society, Massachusetts Division, 1978. pp. 99-107.

Miller Daniel, KIRKWOOD JM et al.: Symposium: Adjuvant cancer therapy of head and neck tumors. Predefinitive and post-definitive chemotherapy for locally advanced squamous carcinoma of the head and neck. Laryngoscope 89:573-81, Apr 1979.

MONTGOMERY William W, Fabian RL, Lavelle WG.: Fundamental otolaryngologic procedures. Chapter 16 in: *Principles and practice of emergency medicine |* edited by George R. Schwartz et al.—Philadelphia. Saunders, 1978. pp. 406-31.

MONTGOMERY William W, Fabian RL, Lavelle WG, Witte JM.:
Nontraumatic otolaryngologic emergencies. Chapter 45 in:
Principles and practice of emergency medicine / edited by George R. Schwartz et al.—
Philadelphia. Saunders, 1978.
pp. 1050-60.

MONTGOMERY William W.: Laryngeal paralysis—teflon injection. Ann Otol Rhinol Laryngol 88:647-57, Sep-Oct 1979.

MONTGOMERY William W.: Surgery of the upper respiratory system, vol. 1 / William W. Montgomery.—2nd ed.—Philadelphia. Lea and Febiger, 1979.

Montgomery William W (See KELLY JH).

Morest D Kent, CANT NB.: Axons from non-cochlear sources in the arterovenous cochlear nucleus of the cat. A study with the rapid Golgi method. Neuroscience 3:103-29, 1978.

Mulvaney Thomas J (See KELLY JH). NADOL Joseph B Jr.: Intracellular fluid pathways in the organ of Corti of cat and man. Ann Otol Rhinol Laryngol 88:2-11, Jan-Feb 1979.

NADOL Joseph B Jr.: Symposium: value and cost analysis of recent ear tests. Considerations in clinical application of electrocochleography in 1978. Laryngoscope 89:697-704, May 1979.

Nadol Joseph B Jr (See ZOLLER M).
PETERSON Scott K, Weiss TF et al.:
Element composition of inner
ear lymphs in cats, lizards and
skates determined by electron
probe microanalysis of liquid

samples. J Comp Physiol 126:1-14, 1978.

Pilch Ben Zion (See GOODMAN ML).

Reardon Edward J (See WEBSTER RC).
SCHUKNECHT Harold F.: A critical

evaluation of treatments for Meniere's disease. J Cont Ed OR1 Allerg 40:15-20, Oct 1978.

SCHUKNECHT Harold F.: Delayed endolymphatic hydrops. Ann Otol Rhinol Laryngol 87:743-8, Nov-Dec 1978.

SCHUKNECHT Harold F et al.: Evaluation and nonreappointment of residents. Arch Otolaryngol 104:640-6, Nov 1978.

SCHUKNECHT Harold F.: Cochlear otosclerosis, a continuing fantasy. Arch Otorhinolaryngol 222:79-84, 1979.

Schuknecht Harold F, PEREZ OLI-VARES F.: Width of the internal auditory canal. Ann Otol Rhinol Laryngol 88:316-23, Mar 1979.

SCHUKNECHT Harold F, Jones DD.: Stapedectomy postmortem findings. Ann Otol Rhinol Laryngol 88:suppl 55, Jan-Feb 1979. 43 p. SCHUKNECHT Harold F.: Recent research and its reference to clinical otology. J Laryngol Otol 93:759-67, Aug 1979.

Smith Richard C (See WEBSTER

STROME Marshall.: Differential diagnosis in pediatric otolaryngology / Marshall Strome.—
Boston. Little, Brown, 1975.
Trans. into Spanish and Japanese in 1979.

Strome Marshall, GOLDWYN R.:
Unsuspected adenoid cystic carcinoma in a secondary rhinoplasty. Ann Plast Surg 2:338-40, Apr 1979.

WARR W Bruce, Guinan JJ Jr.:
Efferent innervation of the organ
of Corti: two separate systems.
Brain Res 173:152-5, Sep 1979.

Way Barbara A (See GOODMAN ML, IRWIN JW).

WEBSTER Richard C, Smith RC et al.: Nasal tip projection changes related to cheeks and lip. Arch Otolaryngol 104:16-21, Jan 1978.

WEBSTER Richard C, Davidson TM, Smith RC.: Browplasty as an adjunct to rhinoplasty. Head and Neck Surg 1:112-22, Nov-Dec 1978.

WEBSTER Richard C, Davidson TM, Smith RC.: Nasofrontal angle changes in rhinoplasty. Otolaryngol Head and Neck Surg 87:95-108, Jan-Feb 1979.

WEBSTER Richard C, Davidson TM, Smith RC.: Importance of the columellar-labial junction in rhinoplasty. Head and Neck Surg 1:423-34, May-Jun 1979.

Webster Richard C, DAVIDSON TM.:
"How I do it"—Plastic Surgery:
High septal transfixion incision
in septal, sinus and nasal surgery. Laryngoscope 89:1008-13,
Jun 1979.

WEBSTER Richard C, Smith RC.: Lateral crural retrodisplacement for superior rotation of the tip in rhinoplasty. Aesth Plast Surg 3:65-78, 1979.

WEBSTER Richard C, Fanous N, Smith RC.: Blepharoplasty: when to combine it with brow, temple or coronal lift. Columella-splitting incisions in rhinoplasty. J Otolaryngol 8:339-43, 417-22, Aug 1979.

WEBSTER Richard C, Davidson TM, Smith RC.: Treatment of scars. Chapter in: Complications in head and neck surgery / edited by J.J. Conley.—Philadelphia. Saunders, 1979. pp. 472-96.

Weiss Thomas F (See HOLTON T, PETERSON SK).

Wilson William R (See ZOLLER M). ZOLLER Michael, Wilson WR, Nadol JB Jr.: Treatment of syphilitic hearing loss: combined penicillin and steroid therapy in 29 patients. Ann Otol Rhinol Laryngol 88:160-5, Mar-Apr

Anesthesiology Department Surgical and Research Staffs

1979.

- *DONLON John V, Newfield P, Sreter F, Ryan JF.: Implications of masseter spasm after succinylcholine. Anesthesiol 49:298-301, Oct 1978.
- Donlon John V (See MCGOLDRICK KE).
- KIM Jin W, Smith PH.: Is glycopyrrolate less dysrhythmogenic than atropine? Authors' comment. Anesthesiol Rev 6:15-6, Sep 1979
- MCGOLDRICK Kathryn E, Donlon JV.: Sublingual hematoma following difficult laryngoscopy. Anesth Analg 58:343-44, Jul-Aug 1979.
- MCGOLDRICK Kathryn E.: Anesthesia for pediatric ophthalmologic surgery. Chapter in: Anesthesia for infants and children / edited by Robert M. Smith.—4th ed.—St. Louis. Mosby, 1979. pp. 477-88.

Smith Porter H (See KIM JW).

Department of Radiology Surgical and Research Staffs

- *DAVIS James M, Davis KR, et al.: Computed tomographic findings in herpes simplex encephalitis. Radiol 129:409-17, Nov 1978.
- DAVIS James M, Davis KR, et al.: The clinical value of an expanded high iodine dose in computed cranial tomography. Radiol 131:373-80, May 1979.
- HESSELINK John R, New PFJ, Weber AL, et al.: Computed tomography of the paranasal sinuses and face: Part I. Normal anatomy. J Comput Assist Tomog 2:559-67, Nov 1978.
- HESSELINK John R, New PFJ, Weber AL et al.: Computed tomography of the paranasal sinuses and face: Part II. Pathological anatomy. J Comput Assist Tomog 2:568-76, Nov 1978.
- K1DO Daniel K, Duncan A, et al.: Clear plastic cerebral manifolds. A replacement for opaque threeway stopcocks. Radiol 130:803-4, Mar 1979.

- KIDO Daniel K, LeMay M, et al.: Diagnosis of cranial asymmetrics in cerebral arteriovenous malformations. J Comput Assist Tomog 3:221-5, Apr 1979.
- Kido Daniel K, ZERVAS NT, et al.: Reduced incidence of cerebral ischemia following rupture of intracranial aneurysms. Surg Neurol 11:339-44, May 1979.
- Kido Daniel K, ZIMMER J, Rumbaugh CL.: Orbital gunshot wound causing a carotid-cavernous fistula and ipsilateral occlusion of the internal carotid artery. Case report. Milit Med 144:485-6, Jul 1979.
- Kido Daniel K, SELTZER SE, et al.: Arthrosonography: Gray-scale ultrasound evaluation of the shoulder. Radiol 132:467-8, Aug 1979.
- MOMOSE K Jack, Weber AL, Goodman ML.: Uncommon neuroma of the skull base. In: Actas XI Congreso Mundiale de Otorrinolaringologia, March 13-19, 1977, Buenos Aires, Argentina, vol. II / edited by J.M. Tato and S.A. Arauz.—Nov. 1978. pp. 958-61.
- MOMOSE K Jack, Taveras JM.:
 Radiological investigation of pituitary adenomas. In: *Radiolog*, vol. 2 / edited by M. Viamonte.—Princeton. Biomedia, 1979. pp. 1-15.

Momose K Jack (See GRIFFIN JF, GROVE AS).

- WEBER Alfred L, Collier D.: Radiological, clinical and pathological evaluation of benign and malignant tumors of the nasal cavity. ln: Actas XI Congreso Mundiale de Otorrinolaringologia, March 13-19, 1977, Buenos Aires, Argentina, vol. II / edited by J. M. Tato and S. A. Arauz.—Nov, 1978. p. 962.
- WEBER Alfred L, Klein TR.: X-ray of the month: Ethmoid mucopyocele. Ann Otol Rhinol Laryngol 88:438-9, May-Jun 1979.
- WEBER Alfred L, Kelly JH.: X-ray of the month: Chicken bone in the larynx. Ann Otol Rhinol Laryngol 88:734-5, Sep-Oct 1979.

Weber Alfred L (See HARBIN W, HESSELINK JR, MOMOSE KJ).

Medical Unit

- *AXELROD Lloyd, Neer RM, Kliman B.: Hypogonadism in a male with immunologically active, biologically inactive luteinizing hormone: an exception to a venerable rule. J Clin Endocrinol Metab 48:279-87, Feb 1979.
- Axelrod Lloyd, WANG CA, et al.: Hyperfunctioning supernumary parathyroid glands. Surg Gynecol Obstet 148:711-4, May 1979.
- AXELROD Lloyd, Slowman SD, Lloyd-Jones P, Martin DB.: Persistence of ketosis despite suppression of lipolysis by 16, 16 dimethylprostaglandin E2 in experimental diabetic ketoacidosis in rats. Diabetes 28:905-13, 1979.
- AXELROD Lloyd, Lloyd-Jones P, Martin DB.: Correction of ketosis by suppression of lipolysis with 5-methylpyrazole-3carboxylic acid in rats with established diabetic ketoacidosis. Diabetes 28:651-7, 1979.
- AXELROD Lloyd.: Adrenal corticosteroids. Chapter 49 in: *Handbook of drug therapy* / edited by R. R. Miller and D.J. Greenblatt.—Elsevier, 1979. pp. 809-40.
- Axelrod Lloyd, CROWLEY WF Jr.: Androgens. Chapter 50 in: Handbook of drug therapy / edited by R. R. Miller and D. J. Greenblatt.—Elsevier, 1979. pp. 841-59.
- BAKER Ann S.: Brain abscess. Spinal epidural abscess. Chapters in: Current pediatric therapy / edited by S.S. Gillis and B.M. Kagan.—8th ed.—Philadelphia. Saunders, 1978. pp. 53-4, 54-5.

Department of Nursing

- *DUPONT Jeanne.: Eye, ear, nose and throat emergencies. Chapter in: Nursing Skillbook: Giving Emergency Care Competently / Jean Robinson, ed.—Horsham, Pa. Intermed Communications, 1978. pp. 111-8.
- Social Service Department
- *English Janet, FOSTER CS.: Coping with blindness: the importance of the ophthalmologist in referral. J Vis Impair Blindness 193, May 1979.

HEPPEN Carol J. Petersen SB.: Visual impairment: facing possible blindness. Soc Work Health Care 5:41-9, Fall 1979. Hurley Frances L (See KAPLAN BE).

KAPLAN Barbara E. Hurley FL.: Head and neck cancer: a threat to life and social functioning. Soc Work Health Care 5:51-8, Eall 1979.

Petersen Susan B (See HEPPEN CJ). WILLIAMS Martha.: Crisis intervention: a social work method. Soc Work Health Care 5:23-31, Fall 1979. There was no separate children's ward until about 1880. Prior to that, mothers were admitted at the same time as their children in order to take care of them. The new 1899 building was rated as

one of the most modern hospital facilities, and indeed had a specially-designed pediatric service, a concept ahead of the times.

Over 25 Years of Service

Dorothy Campanella Jessie O. Jones, N.A. Dorothy Landers, R.N. Roger Lane, N.A. Rita Lovely Gerald Maloney Robert McLaughlin Lloyd Ramsdell Hattie Roberts S. Madeline Shipsey Barbara Smith, R.N. Charles Snyder Ann Stromberg

25 Years of Service Charlotta Michalek, N.A.

20 Years of Service

Geraldine Jenkins, C.R.N.A. Phyllis Paleo Wanda Pilarski Lehan Power Freda Swan Olga Swanson, L.P.N.

15 Years of Service

Marguerite Coughlin
Ellen Davis, R.N.
Claes H. Dohlman, M.D.
David D. Donaldson, M.D.
Jeanne Dupont, R.N.
Stephen J. Fricker, M.D.
Hiwatha Glover
Barbara LaPoint, R.N.
Robert Marshall
Booker Smith
Katherine Stukin
Blanche Wadman, R.N.
Ann Weaver, L.P.N.

10 Years of Service

Concetta Anastasi Carmen Badwah Doris Bascomb Joseph Bellefontaine Sadie Myrna Benson Judith Black, R.N. Helen Cantwell Jean Caruso, L.P.N. Etelevena Clark, N.A. Irene Cullin, R.N. Lena Dudley, N.A. Kaira Dwyer Linda Jose, M.T. Marcia Lake, R.N. Ruth Lawrence Joan Lebenbaum Mary McCormick Bridget McDermott, R.N. Eleanor Mobilia, O.D. Cary Noyes, N.A. Helen Oliver Winnie Oyandel Kathleen Pennamen, R.N. Myrtle Perkins Hermin Richards, N.A. Rosanne Ring Mildred St. Hill Maria Samayoa Anna Sinagra Susan Sproviero Mary Tassy, R.N. Sheila Williams Lorna Winding Zoe Wright



The Pediatric Unit has a comprehensive program to ease children's apprehensions prior to surgery. The program includes an initial discussion between a nurse, the child and the parents, supervised play such as pictured liere, and an instructive puppet show performed nightly by the night nursing staff. One parent may opt to stay overnight in the child's room, these days to provide comfort, while the nursing staff concentrates on care.

Volunteers

5 Years of Service Yolande Armand Mary Louise Bartley, R.N. James Bishop George L. Bynoe, Jr. George Carrozza Cary Crehan Cheryl Cooper, R.N. **Gregory Cross** Louise Dami, L.P.N. Mary Louise Davis Cynthia Deyo Paul DiMaggio John V. Donlon, M.D. David K. Dueker, M.D. John Dunne, C.R.N.A. Claudia Evans, O.D. Karen Fellows Dagoberto Gonzalez Janis Hanratty Ellen Heafey Despina Ioannidis Mary Ioven, R.N.

Marilyn Johnston Eileen Jonas David Kelley Stephen Kennedy Mark Kuperwaser Joan Legere, N.A. Nancy London Shirley Lowe, R.N. Ambrose McLaren Dorothy Monestime, N.A. John Nadeau Shirley Niles, N.A. Eileen Nims Clarinda Northrop Cornelia O'Connor, R.N. Wilhelmina Ogasian John Oliver Maureen Ollivierre, N.A. Marcia Palo, R.N. Soula Papadopoulos Beatrice Patrick Thomas Richardson, M.D. Susan Ryder, R.N. Joan Shea Richard Spinale David Stordy Raymond Stordy Janet Sullivan, R.D. Kathleen Sullivan, R.N. Patricia Tighe Linda Tomczykowski, R.N. Lois Toutwid Robert Trafton Martha Von Dette, R.N. Heinrich Von Helmstatten, M.D. Janet Wager, R.N. Matthew Weekes Mary White William R. Wilson, M.D. Shirley H. Wray, M.D. **Wayne Young** Petros Zaimis

Over 100 hours
Diana Bolton
Emma Buckley
Joyce Copeland
Joanne W. Larrabee
Marydell Lipscomb
Ellen Meisel
Lanelle P. Miller
Marvin S. Siegel
Beth Weiner

Honor Roll Ruth Adair **Emily Allen** Merle Barry Dorothy Bowman Evelyn Cunningham Winifred A. Cunningham Jacqueline A. Daly Barbara Dawson Geraldine DiLorenzo Wendy Ecker Helen Foster Suzanne Frederick Penelope Ghartey Ruth Goldenberg Mary A. Higgins

Marjorie Kent Helen King Florence Knight Suzanne Kurtz Stephanie Lombardo Eleanor Lowell Marjorie Lyman Arline Margulies Helen McEvoy Phyllis Meisel Donna J. Montgomery Patricia Okamura Mary Catherine O'Neil Enid Fay Phillips Florence Reid **Ethel Rosenthal** Anne Schuknecht Ruth Shapiro Alice Silverman Jean Smith Mildred F. Sullivan Priscilla Summers Kathryn Van Dernet

Executive Editor:	James Holzer,
	Assistant Administrator
Editor:	Ellen Barlow
Editorial Staff:	Suzanne Donley
	Mary F. Jones
	Marie E. McPartland
Designers:	Julie Curtis Reed
,	Roger Sametz
Photography:	Stuart Darsch
	File photos, Public Affairs O

Development Office Massachusetts Eye and Ear Infirmary 243 Charles Street Boston, Massachusetts 02114 523-7900, extension 622

Unlike 1828 when bankruptcy threatened continuance of the Massachusetts Eye and Ear Infirmary, patient treatment here now knows no such prospects. What is at stake, however, is completion of research facilities. We need to match the \$350,000 challenge grant from the Kresge Foundation if construction is to continue. Research construction money is

virtually exhausted. Money from patients' bills does not pay for this. Throughout history our greatest sources of donated funds have been private foundations, granting agencies and generous individuals who believe in our commitment to provide the best in specialty care.

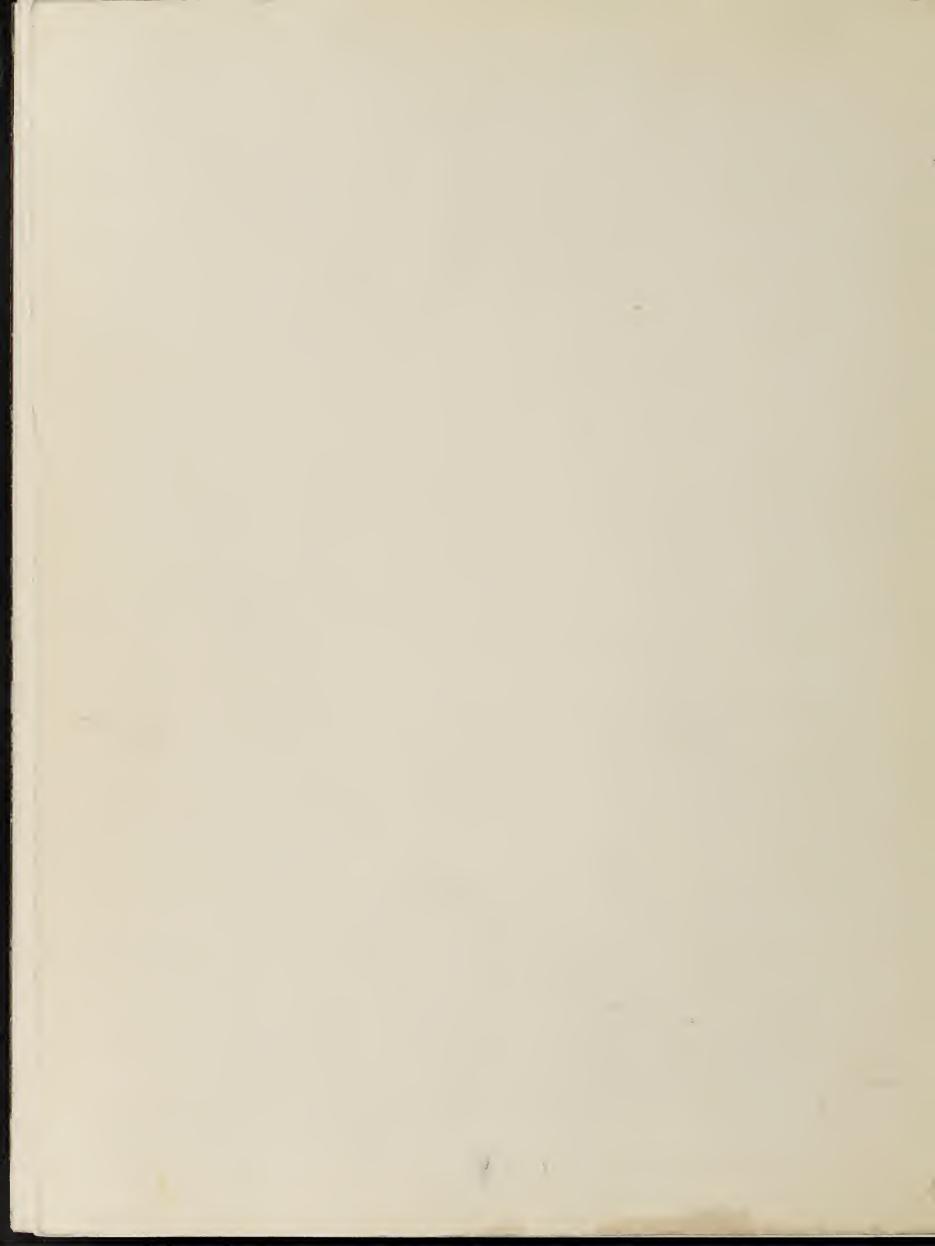
A donation made to us today is an investment.

It is an investment in a facility that can provide sophisticated specialty care because its experts see thousands of patients with disorders ranging from the common to the truly rare.

It is an investment in research that will continue to produce advances that lead to better treatments.

And it is also an investment in the training of tomorrow's health care professionals who will utilize knowledge gained here in practice in other parts of the country and the world. Won't you please show your interest in tomorrow's health by filling out the attached reply envelope and making a donation today?





The 155th Annual Report of the Massachusetts Eye and Ear Infirmary for 1980

The quality of care continues to be related to the quality of the people working within... and now more crucially than ever is related to the quality of the leadership groups directing the institution.

Introduction
3
The Board of Managers and the Corporation
4
Report of the Chairman and the President
7
Hospital Management
8
Report of the General
Director
11
The Professional Staff

Report of the Chief of Ophthalmology 14
Report of the Chief of Otolaryngology 16
Financial Highlights 17
Financial Statements 19
Comparative Statistics 20
Corporation 20
Committees 21
Management

Departments and Services
21
Ladies Visiting Committee
22
Massachusetts Eye and Ear
Infirmary Medical Staff
24
Research Staff
25
Harvard Medical School
Faculty
27
Publications
32
Service Award Recipients

Introduction



The Massachusetts Eye and Ear Infirmary has built its 156-year tradition on the excellence of medical care provided within. Tradition, however, cannot stagnate.

Hospitals and their leadership groups today must respond to a broader scope of issues and a broader definition of hospital functions. Hospitals in the early part of this century were mainly inpatient facilities whose primary concerns were day-to-day operations in the provision of medical care. No longer so simple today, a hospital's roles encompass preventive, diagnostic, therapeutic and rehabilitative patient care, as well as the pursuit of research into causes of disease and the education of future specialists.

The quality of care continues to be related to the quality of the people working within... and now more crucially than ever is related to the quality of the lead-

ership groups directing the institution.

Hospital leadership at the Massachusetts Eye and Ear Infirmary, as elsewhere, consists of the Governing Board, the Hospital Management and the Professional Staff. The three groups are interallied toward the common mission of providing specialty care for the sick and injured, improving and maintaining the health status of the community, and seeking prevention of disease. Each group has a distinct contribution to make toward fulfilling these responsibilities, but it is the Governing Board—whose voluntary membership is drawn from the community—who has the ultimate responsibility for the quality of care and for the longterm effectiveness of the institution.

The role of each of these leadership groups has adapted to meet the challenging demands placed upon the hospital. As an introduction to each of the reports found traditionally in the Massachusetts Eye and Ear Infirmary Annual Report, a page will highlight the roles and some of the issues in health care that our hospital leaders are necessarily scrutinizing to effectively direct the hospital.

1980 was the dawn of a new decade of changes; changes with which a foresighted leadership will be able to contend.



The Board of Managers and the Corporation



Each member of the Board of Managers draws upon his or her professional expertise to confront the broad scope of health care issues.

Seeking full community support for their then twoyear-old Infirmary, Dr. Edward Reynolds and Dr. John Jeffries organized a committee of socially and professionally distinguished Bostonians. These committee members were men who, in keeping with the spirit of the times, were religiously humanitarian and saw the Infirmary's mission "as God's work." They gave their time, talent and money to the development of the hospital and by February of 1827, had the Infirmary incorporated under a state charter.

The members of the corporation of the Massachusetts Eye and Ear Infirmary today perpetuate that spirit of voluntary dedication. From their membership twelve managers are elected and, together with the two managers who are appointed by the Governor of the Commonwealth, form the Governing Board of the Massachusetts Eye and Ear Infirmary, the group with the ultimate responsibility for the quality of care and for the longterm effectiveness of the hospital.

Each Board member draws upon his or her professional expertise to confront the broad scope of health care issues for which the Governing Board along with the Hospital Management and the Professional Staff share responsibility. The tasks of the Governing Board have become all the more time-consuming. There are an increasing number of federal and state laws and regulations, budget caps and public accountability issues with which to contend. Increasing thousands come to the Massachusetts Eye and Ear for care each yearthere is a demand for additional services and technologies. Care must be taken, however, that new programs are justified in terms of patient benefits and cost effectiveness. Important also is to maintain the hospital's preeminent stature as the Harvard-affiliated teaching hospital in the specialties of Ophthalmology and Otolaryngology. These demands must be continually balanced.

With the aid of the other leadership groups, the Governing Board develops strategic long-term planning, ensures the hospital's financial well-being and compliance with existing laws and standards, is involved in fundraising, and in general guides the hospital into a future where it is serving the expressed needs of its community and humanity.

Report of the Chairman and the President





We are pleased to report a year of continued growth for the Massachusetts Eye and Ear Infirmary. The hospital has experienced growth in the numbers of patients who have received care, has maintained its excellence in research, and has expanded educational opportunities for the medical house staff, nursing staff and for other hospital personnel.

The Board reviewed hospital statistics which indicated a trend toward increased utilization of hospital services. In light of this increasing demand for our services, the Massachusetts Eye and Ear Infirmary is considering an application for a flexible bed license and further development of ambulatory surgical services. The Executive Committee of the Board has been asked to address the question of equitable distribution of the Massachusetts Eye and Ear Infirmary's limited resources between both ENT and Eve Service Departments, Also under consideration is the suggestion that greater use of

operating rooms during off hours such as weekends and holidays might improve the utilization of all beds.

The first Board of Managers meeting of 1980 opened like many others over the years with the review of applicants to the professional staff. In order to provide the Board with more information on professional staff candidates, the Board revised the medical staff appointment application. Currently, the Board is working with the Boards of Surgeons to further develop the professional staff appointment process. This process is intended to meet the needs of the Massachusetts Eye and Ear Infirmary which is facing greater demands for its limited number of beds and other hospital services.

The Joint Commission on the Accreditation of Hospitals (JCAH) conducted their 1979 survey in December and subsequently gave the Infirmary a two-year accreditation with no major deficiencies cited. Massachusetts Eye and Ear Infirmary has always received a full two-year accreditation from the JCAH, despite the

fact that JCAH standards have become increasingly stringent the past several years. The JCAH is a non-governmental, non-profit monitor of all hospitals who voluntarily apply for accreditation. However, without accreditation, a hospital cannot participate in and receive payment from the Medicare, Medicaid and Blue Cross/Blue Shield programs.

Inflation's voracious appetite forced the hospital to take several aggressive measures, including the "pre-purchase" of the ENT Electron Microscope for a total price of \$243,238, to avoid an \$18,000 price increase. The investment policy regarding the endowment funds of the Massachusetts Eye and Ear Infirmary was also changed because of economic concerns.

Other financial concerns included addressing the Massachusetts Rate Setting Commission regulation which set a cap on all hospital charges for Fiscal Year 1981. The Budget Committee submitted a budget for Fiscal Year 1981 which meets the state's regulations. We continue to work

within the boundaries set by the state and to meet the challenges of the heavily regulated health care environment.

The need for a Computed Tomography (CT) Scanner continues to grow even more severe as the waiting period for patients to receive a scan at other hospitals now exceeds a week. Therefore, the decision was made to submit the Determination of Need application on September 2, 1980. The application had its first public inspection before the Public Health Council in November. The Massachusetts Eve and Ear Infirmary's position is that the CT Scanner will be utilized differently at the Infirmary because it is a specialty hospital where there will be a much greater utilization for head and neck injuries. The Council has eight months to make a decision.

The Executive Committee approved the development of the Mass. Eye and Ear Infirmary and the Mass. General Hospital Joint Trauma Center Proposal. In September, the Metropolitan Boston Hospital Council announced that the proposal was accepted and that

The Otolaryngology department's electron microscope was purchased in advance of its need to avoid an \$18,000 price increase.



In 1980, the Massachusetts Eye and Ear Infirmary and the Massachusetts General Hospital were jointly designated one of three Boston-area trauma centers.

the hospitals be jointly designated one of three Boston-area trauma centers for the emergency care of severely injured accident victims. The Mass. Eye and Ear and Mass. General Hospital joint proposal was the only one accepted unconditionally. We feel this expresses a vote of confidence from the state that we share concerning the fine work at the Massachusetts Eye and Ear Infirmary.

We are proud of our association with the Massachusetts
Eye and Ear Infirmary and will continue to dedicate ourselves to maintaining its tradition despite the bounds of economic constraints.

Om alude Chapter

Robert Jadan

Melville Chapin, Chairman

Robert C. Jordan, President





Hospital Management



The major goal of hospital management continues to be to provide optimal patient care at a fair price in an accessible system.

The Massachusetts Eye and Ear Infirmary is a vital center where patient care and surgical service, clinical training of specialists, and research investigation can function together efficiently.

The new breed of hospital administrators is necessarily a far cry from the pre-1872 days at the then-called Massachusetts Charitable Eye and Ear Infirmary when the "matron" had charge of everything from cooking, cleaning, and purchasing supplies to directing employees and administering nursing care. The professional hospital administrator of today, in fact, is a phenomena of only the last thirty years or so. To manage a health care institution today requires vast knowledge of health care issues, of managerial skills, and a flexible vision of future possibilities.

The Governing Board of the Massachusetts Eye and Ear Infirmary appoints the General Director who is their executive officer and agent, charged with supervising and directing the management of the hospital. Tuned to both external and internal politics and economics, the General Director sets the tone for the hospital's management and animates the commitment of all associated with the Infirmary toward fulfilling its mission of excellence in a realistic manner.

The major goal of hospital management continues to be to provide optimal patient care at a fair price in an accessible system. To this end, the General Director weighs issues with input from the other administrators, the medical and nursing staff, trustees, and patients. Among many other responsibilities, the General Director with his management team develops programs and policies and alternatives for Board consideration, implements Board-approved financial and other policies, ensures that governmental requirements are followed, and is a channel of communication between the Governing Body or any of its committees and the Professional Staff.

Time demands on Hospital Management have increased as it becomes crucial to meet or correspond with outside health planners, regulators and associations and to serve on committees or advisory groups outside the hospital. Responsibilities for internal management have also multiplied.

The hospital is a vital center where patient care and surgical service, clinical training of specialists, and research investigation can function together efficiently toward the ultimate benefit of present and future patients. The hospital's role, if it is to remain viable as an organization, will have to adapt with the times—through innovation and with the acumen of a leadership willing to be a catalyst for change.



Measurable productivity is a term that is just as applicable to a hospital as it is to any other organization. A hospital must take care to keep the humanistic element of its services as an important part of the bottom line—however, with proper management and effective utilization of staff, equipment and materials, not only can we improve the quantity of service delivered, but also the quality of patient

Internally, the personnel at the Massachusetts Eye and Ear Infirmary have continued to use resourcefulness and good management to increase productivity. My conviction regarding the importance of productivity stems from observable results made here in my own institution, and also from exchanges of ideas with business people and health care providers nationally. My appointment as the Chairman-elect of the American College of Hospital Administrators this past year has meant I now spend more time conferring with other administrators across the country, conducting forums

with others in the position to influence the direction of health care. One trend I see is the increasing emphasis on understanding productivity in terms of a health care institution and the continuing search to find ways to improve it. Just as in business the emphasis has shifted from pushing sales to upping productivity, hospital management is going to have to similarly embrace productivity measurements to relate charges to the actual costs involved and to consequently have a yardstick with which to control costs.

Other trends in health care nationally also parallel some of the issues we confronted here at the Massachusetts Eye and Ear Infirmary during 1980.

Cost containment, of course, continues to be the big issue. Every department in the Massachusetts Eye and Ear Infirmary is grappling with the problem of increasing productivity without sacrificing the high quality of our medical care or without neglecting the professional growth of staff and employees. In addition to attending our new internal management develop-

ment program, managers and supervisors keep abreast of new ideas through affiliations with their professional associations.

A related issue is that of the high price of new technologies. We must take care that new techniques and technologies are justified by demonstrating both patient benefits and effectivness. In September 1980 the Massachusetts Eye and Ear Infirmary filed a Determination of Need application for state approval to purchase a Computed Tomography (CT) Scanner capable of head and neck examinations. This move was made only after careful scrutiny of currently available options. The CT Scan has been found to be a vital part of accurate diagnosis of eye, ear, head and neck problems and its optimal use at the Massachusetts Eye and Ear Infirmary has been documented.

There has been a great deal of interest nationwide in expanding programs which do not require capital-intensive technology, such as home care or ambulatory care. Efforts were initiated at the Mass. Eye

and Ear in 1980 to expand our ambulatory care services, most particularly ambulatory surgery. More ambulatory care translates into less costly provision of care. The effort toward minimizing lengths of stay, when applicable, is further exemplified in our yearly decline in average length of stays. Nationally, length of stay for an increasingly elderly patient population is averaging five days longer. In general, the length of stay for disorders of the eye, ear, nose and throat associated with elderly patients at the Mass. Eye and Ear has decreased.

Another national trend from which we diverge is that toward reducing the overabundance of patient beds. In the case of the Massachusetts Eye and Ear Infirmary, there is often a lengthy wait for physicians wishing to admit their patients. Among other possible solutions explored in 1980 was to investigate application for a flexible bed license. Our fixed licensed capacity of 174 beds would then be replaced with a capacity that could



Functions of the new data processing system for efficient scheduling, future planning, and prediction of staffing patterns were completed in 1980.

The Clinical Lab is one area of the hospital which must be staffed 24 hours per day. Whether patients are rushed into the Emergency Ward at 3 a.m. or are admitted during regular workday hours, blood analyses must be done to provide physicians with the most complete information possible.

vary based on the day of the week or even upon the season -but would still average 174. The anticipated result would be a higher utilization of existing beds and, as the license's name implies, greater flexibility.

An additional trend in this country upon which I'd like to

comment is one I find very encouraging. People are generally more interested and knowledgeable about their own well being. We at the Massachusetts Eye and Ear Infirmary consider one of our ongoing roles to be to educate the community in disease and accident prevention pertaining to our specialties. In 1980, we celebrated Hospital Week with an information table at City Hall, we dispensed literature at the Helen Keller Centennial Congress and at the local Charles Street Fair, and conducted our annual free health screening at Healthfest in concert with Mass. General Hospital and the Beacon Hill Civic Association.

Much of the progress I've reported on these pages is the result of ongoing efforts. Work in these areas continues

through 1981. In 1980 we finished the conversion to a new data processing system. In 1981 we will review and evaluate reports and controls this new system makes possible to ensure the system's most efficient use. Completion of the hospital's "shell" spaces will continue next year as further funds are received, thereby finishing the last carefully planned phases of clinical and research expansion.

We're striving for greater productivity. We're striving to fulfill our responsibilities to our public who deserve the best possible care—through wise planning, proper management of resources, and with the conscientiousness of the best medical, nursing, allied health and other personnel I

In speaking for myself and for the sake of patients past and future, I'd like to thank all those dedicated to the mission of the Massachusetts Eye and Ear Infirmary.

Charles Wood

Charles T. Wood, General Director



Through proper utilization of staff, equipment and materials, not only can the quantity of services delivered be improved, but also the quality of patient care.



Efforts were initiated in 1980 to expand the ambulatory surgery program.





Massachusetts Eye and Ear Infirmary celebrated Hospital Week with an information table at City Hall.



The Professional Staff



First and foremost, the Professional Staff assumes responsibility for the care and treatment of patients, but are joining in the united effort to approach decisionmaking with a sensitivity toward balancing costs and patient benefits.

The medical staff at the Massachusetts Eve and Ear Infirmary historically has been actively involved with the leadership of the hospital. Long gone since the 1870s, however, are the days when the surgeons themselves were in charge of assigning the patient beds. First and foremost, then as now, the Professional Staff assumes the responsibility for the care and treatment of patients.

The Professional Staff has its own means of self-governance, approved by the Governing Board, with stated intentions to ensure all patients receive the best possible care, to provide a forum for discussion of medicoadministrative problems, to foster and maintain high standards in education and research, and to uphold the high ethical integrity of their profession.

Physicians are joining in the united efforts to approach decision-making with a sensitivity toward balancing costs and patient benefits. Active participation in the hospital's long-term strategic planning is another area to which the Professional Staff lends perspective. When questions are presented by the more health-concerned public to explain health tips, a particular disease or injury, or research programs in the Massachusetts Eye and Ear Infirmary's specialties, it is the Professional Staff who can share expertise through the media and public lectures.

To confront and anticipate the changing dynamics of health care this decade, a cohesive, interallied leadership among the Governing Board, Hospital Management and the Professional Staff is necessary. Each group's participation contributes a valuable perspective

on the issues.

Report of the Chief of Ophthalmology





During the year, there have been continuing efforts to strengthen inpatient and outpatient services, as well as academic programs:

Clinical Care

Excellent clinical day-to-day care of inpatients and outpatients have continued on a somewhat expanded scale. 7,600 major surgical procedures have been performed, as well as 2,800 minor ones. A total of 71,000 clinic visits have been seen in our ambulatory services, as usual distributed in about equal thirds over the General Eye Service, the combined Subspecialty Services and the Emergency Room. The geographic fulltime staff has, in addition, seen private patients, most of whom have been made available in the teaching of residents and fellows. Some of these subspecialty services,

particularly the Cornea Service and the Eye Pathology Laboratory, have expanded their activities quite substantially during the year.

From time to time, there has been a considerable shortage of beds for our staff and waiting periods for elective surgery have been long. Therefore, in order to increase bed utilization a "same-day surgery" program has been instituted, allowing patients to be admitted in the morning for surgery the same day. The patient can then leave either later that day or the next day. This ambulatory surgery program is being used increasingly in spite of some logistical difficulties and now encompasses about 10% of the ophthalmic inpatients. Expanded use of ambulatory surgery is hoped to ease the strain on our limited bed capacity. The length of stay for admitted eye patients has decreased slightly to 4.9 days.

With the same goal in mind, two new operating rooms have become available during the



Much important research is ongoing in the Massachusetts Eye and Ear Infirmary's research laboratories. Scanning electron micrographs (such as the one above which shows tissue affected by glaucoma) are helpful in understanding certain disease processes.



year. Additional construction of clinics and other facilities will be carried out over the coming two years, particularly benefiting the Glaucoma Service, the Pediatric-Motility Service, and Neuro-ophthalmology.

Teaching

The Residency has now become streamlined into a thirty-six-month clinical residency which includes an introductory course, one month of Basic Science Course, daily morning conferences, and a weekly three-hour clinical lecture series. There will be continued rotation through Children's Hospital and the Brigham and Women's Hospital.

We continue to accept eight new residents each year, beginning July 1. The quality of resident applicants is better than ever before. Not only do they have superb scholastic credentials, but many have also had previous research or other training valuable to their future careers as ophthalmologists.

The recently created Chief Resident position has proven to be of great value in the resident teaching program. Dr. Thomas Hedges has served for one year with distinction; he was recently succeeded by Dr. Anthony Fraioli.

A laboratory for practicing surgery on animal eyes, to be used by residents as well as staff, has been instituted during the year. Dr. Robert Bellows deserves great credit for having taken this initiative.

Our audio-visual capabilities have also increased, allowing for better surgical teaching. Thus, TV cameras in the operating rooms allow surgery to be followed on monitors both in the operating room and in the Meltzer auditorium.

Undergraduate teaching continues to be strong under the direction of Dr. Alfred Scott. Dr. Frank Berson is now his assistant. Also, the training of postresidency fellows is more extensive than ever. About 35 such fellows are presently in training in the various subspecialties.

The Lancaster Course held in Waterville, Maine and directed by Dr. Henry Allen, is still in great demand. The Harvard Basic Science Course has substantially less enrollment, but continues to give quality teaching.

Research

The recruitment of clinical and basic researchers has been somewhat of a disappointment during the year. Several eminent academicians have, after initial interest, turned us down. Funds, both nationally and within the hospital, have been tight during this period.

However, on the bright side is the scheduled construction of several new laboratories within the hospital. This construction program will benefit primarily the Glaucoma researchers and Eye Pathology. Of great importance is the acquisition of the Charles Street Garage, a fifty thousand square foot building on the other side of Charles Circle.

Our research effort is particularly strong in the fields of glaucoma, retinal degeneration, pathology, lens biochemistry and cornea, but other interests also are well represented. On the clinical side, there are a number of clinical studies involving the visiting staff as well as the hospital-based staff. Dr. Paul Vinger's efforts in the field of prevention of eye injuries deserves special mention.

In sum, much excellent research is going on in the Infirmary's laboratories and clinics and will continue to do so.

Oals Johlman M.D.

Claes H. Dohlman, M.D. Chief of Ophthalmology

Excellent clinical care of outpatients and inpatients has continued on an expanded scale.



Report of the Chief of Otolaryngology



Our primary mission is to provide the best possible medical services for patients with diseases of the ears, head and neck and to pass on our knowledge and skills to a new generation of physicians. An objective of equal importance is to improve our capability for prevention and treatment of disease through research. With excellent institutional facilities and fine clinical and research staffs, we have made good progress in achieving these goals.

Last year the department of otolaryngology cared for 46,065 ambulatory patients of whom 23,247 were seen in the outpatient clinic, 16,697 in the emergency ward, and 6,121 in the offices of the full-time staff. This represents an overall increase of 5% over the previous year. Additionally, there were 4,546 hospital admissions on the otolaryngology service of which 3,593 were

private and 953 were service cases. This is an overall increase of 243 over the previous year. Although the bed capacity of the Infirmary has been static at 174, the increase in admissions is possible because of shorter lengths-of-stay. The care of our inpatients has been greatly enhanced by the consultative services in internal medicine by Dr. Lloyd Axelrod and his staff and in infectious diseases by Dr. Ann Baker.

The Evoked Response Audiometry Laboratory is now fully operational under the direction of Dr. Aaron Thornton. This procedure measures electrical activity in the inner ear and brain resulting from sound stimulation and provides information about the causes of deafness which cannot be acquired by any other method.

Surgical laser equipment has been recently acquired and will be used principally for the removal of endolaryngeal lesions. Closed circuit television for macro and micro surgery has been installed in an operating room with both video and audio transmission to the Meltzer Auditorium.

Dr. William Wilson continues to supervise the student teaching program. Harvard Medical students are assigned to the department of otolaryngology in groups of ten for four weeks. They are given lectures by the residents and receive clinical instruction through patient contact in the outpatient clinic and emergency ward where they are supervised by a dedicated staff. Additionally, the full-time staff members serve as tutors for medical students who serve one-month elective courses in more intensive training.

For residents beginning otolaryngology training on and after July 1, 1981, the requirements for Board Certification will be five (rather than four) years of post-graduate clinical training. The first year must consist of training in general surgery. The remaining four years may be spent in otolaryngology or alternatively one additional year in general surgery, internal medicine or some subspecialty of the trainees' choosing, and three years in otolaryngology. At this time we require two years of general surgery training as a prerequisite to our three-year otolaryngology program. This year we have instituted Saturday morning classes to provide additional instruction in the basic sciences for residents, fellows and students.

We continue to be deeply involved in the study of pathology of human ear disease. Our collection of human temporal bones now numbers over 1200. The Infirmary has been designated as one of the four National Temporal Bone Bank Centers and in this capacity functions as a repository for medical records



The cause and extent of hearing loss is evaluated by measuring electrical activity in the inner ear and brain in the specially-designed Evoked Response Audiometry Laboratory.

The Massachusetts Eye and Ear Infirmary was designated the coordinating center of the National Temporal Bone Banks program.

of patients with ear disease who have donated their temporal bones for pathological study.

The new pliable plastic tracheal tubes which have been developed by Dr. William Montgomery in his Engineering Sciences Laboratory have found world-wide use. They were the subjects of an exhibit at this year's annual meeting of the American Academy of Otolaryngology. Dr. William Wilson is principal investigator of a multi-institutional study on a disease known as sudden deafness. Controlled studies have shown that steroid therapy restores hearing in some of these cases. In the Electronmicroscopy Laboratory, Dr. Robert Kimura continues to contribute to our knowledge of the fine anatomy of the inner ear and Dr. Joseph Nadol is searching out the ultrastructural pathological changes in human inner ears. Dr. Nelson Kiang continues to

direct a large staff of researchers in the Eaton Peabody Laboratory in the study of auditory physiology. After elucidating some of the mechanisms of cochlear function, they have turned to the auditory centers in the brain. These complex studies are aided by the multidisciplinary approach involving physiologists, biologists, engineers and anatomists from the Infirmary, Massachusetts General Hospital, Massachusetts Institute of Technology and Harvard Medical School.

This has been a very exciting year and much has been accomplished. A special strength of the Massachusetts Eye and Ear Infirmary is that it provides an opportunity for clinicians and researchers to work side-by-side. Each becomes more effective by drawing from the knowledge of the other.

Thanko & Dobulaneolis

Harold F. Schuknecht, M.D. Chief of Otolaryngology





Television cameras were installed in two of the operating rooms with both video and audio transmission to the Meltzer Auditorium, to be used for teaching purposes.



Regulatory actions controlling the health care industry contribute to a changing picture of health care that is perhaps complicated to comprehend, but of pertinence to every American alive today.

Legislation beginning with the Social Security
Amendments of 1965 and Medicare/Medicaid the following year launched the concept that every American
should be assured an equal opportunity to obtain
high quality, comprehensive care with dignity. Technological innovations the past century have dramatically
improved disease and injury prognosis, but are
extremely costly. Into the picture steps the third-party
payer who now picks up most of the tab.

Construction of new health care facilities boomed in the 1950s with funds made available through the federal Hill-Burton Act. By the 1970s, however, cost containment—not facility growth—became the challenge of the decade. Hence the Massachusetts Determination of Need Statute was passed, necessitating that any proposal for expenditures over \$150,000 pass through an elaborate network of state health planning agencies for approval. Also in the '70s, the Massachusetts Rate Setting Commission (RSC) was established as an agency that reviews all medical charges and sets maximum rates.

Because inflation is exceeding increases projected by the RSC in such areas as fuel costs, hospital leaders are forced to cut somewhere to stay within the RSC's cap. The main goal of a not-for-profit hospital such as the Massachusetts Eye and Ear Infirmary is to have the institution as a whole break even. Not every service can break even without making charges prohibitive, but if it is a necessary service for the patients, it has to be continued. A bottom-line profit is not the unceasing objective as it is in a for-profit corporation, but certainly productivity throughout all operations is a goal. The innovative split cost accounting system based on clinical care units implemented at Massachusetts Eye and Ear Infirmary back in 1976 has proven to be not only an important and more equitable reimbursement mechanism, but also a valuable tool internally for budgeting, forecasting, staffing, scheduling patients and determining costs. Ways are continually being sought at the Mass. Eye and Ear Infirmary to maximize efficiency of internal operations so critical services will not have to be curtailed to stay within the RSC's caps.

However, future scenarios must be considered. Medical care has advanced largely through technological achievements. Will ethical decisions be made in favor of the technology which benefits the majority? Or, can society afford to maintain the means for treating patients with rarer disorders? When a resource is scarce, how will society decide who will receive benefit from it? Ethical questions such as these demand consideration today because only through careful health planning with input from the public can we be assured that the concept of equal access to high quality care is carried forth.

Will ethical decisions be made in favor of the technology that benefits the majority? Or, can society afford to maintain the means for treating patients with rarer disorders?



Operating Funds
Balance Sheet
September 30, 1980

Total operating funds		\$48,882,168	Total operating funds	\$48,882,168
Total other assets		\$34,981,207	Total other liabilities	\$43,648,952
Other assets: Property, plant and equipment Less accumulated depreciation	\$47,116,620 _12,135,413			28,289,056
Investments, at cost (quoted market value \$2,818,108) Inventories Prepaid expenses Due from investment pools Estimated contract adjustments Total current assets	1,121,677	\$ 7,195,436 3,043,355 270,881 76,029 239,791 294,825 \$13,900,961	Depreciation fund—unrestricted 5,	213,920 1,412,691 \$ 5,233,216 15,192,278 167,618 486,699 934,428 867,929
Current assets: Cash Accounts receivable Less allowance	\$ 8,317,113	\$ 2,780,644	Current liabilities: Current installments of long-term debt Accounts payable	\$ 921,000 2,685,605

Statement of
Revenue and Expenses
September 30, 1980

Patient service revenue:		\$28,629,531
Adjustment to patient revenue for uncollectible accounts, free carc and contractual allowances		2,650,641
Net revenue service to patients		\$25,978,890
Other operating revenue (including \$6,819,590 from research and other specific purpose funds):		8,735,002
Total operating revenue		\$34,713,892
Operating expenses:		
Patient service (including depreciation)	\$27,811,197	
Research and other specific purpose direct expense	6,819,590	
Total operating expenses		\$34,630,787
Hospital net income from operations		\$ 83,105

Income from investments	\$ 1,990,720
Gifts and bequests	1,377,418
Donated income—various estates	290,136
	\$ 3,658,274

Restricted funds Balance sheet September 30, 1980			
Specific purpose funds: Cash	\$ 1,925,354	Equity in undistributed security pool gains	\$ 267,318
Investments at cost (quoted market	- -/ / /-	Fund balances	
value \$2,168,437}	2,544,991	Special purpose	3,362,135
Due from other funds	1,325,486	Temporary	1,591,094
Receivable from grantor agencies		Unexpected restricted income	575,284
	\$ 5,795,831		\$ 5,795,831
Endowment funds:			
		Equity in undistributed security pool gains	\$ 3,105,258
Due from Investment Pools	\$ 84,335	Fund balances	
Investments at cost (quoted market	12.247.216	Income restricted	1,874,988
value \$14,382,482)	13,247,316	Income unrestricted	8,351,405
	\$13,331,651		\$13,331,651
Building fund:	-		
Cash	\$ 818,817		
Construction in progress	2,300,062	Accounts payable	\$ 71,791
Due from other funds	87,205	Fund balance	3,134,293
	\$ 3,206,084		\$ 3,206,084

			1980	1979
Fiscal 1979–1980	Inpatient Hospital 174 beds	Admissions: Eye patients ENT patients	7,602 4,541	7,476 4,302
		Total admissions	12,143	11,778
		Operations: By Eye House Staff By Eye Attending Staff	1,159 6,539	913 6,762
		Total Eye operations	7,698	7,675
		By ENT House Staff By ENT Attending Staff	1,068 3,200	863 3,389
		Total ENT operations	4,268	4,252
		Total operations	11,966	11,927
		Discharges: Death Autopsies	12,078 14 7%	11,810 8 37%
		Patient days Average patient eensus Average length of stay Bed utilization	55,164 151 4.57 87%	54,187 148 4.59 85%
	Outpatient Department	Eyc Clinic Total Eye visit s	48,197	48,919
		ENT Clinie Total ENT visits	22,609	19,665
		Total OPD visits	70,806	68,584
	Emergency Ward	Eye eases ENT cases	23,213 16,697	21,321 17,985
		Total	39,910	39,306
	Ambulatory Surgery	Eye eases ENT cases	2,802 2,040	2,559 1,805
		Total	4,842	4,364
	Special Services	Audiology Electroretinography (tests) Fluorescein (tests) Low vision Neuro-ophthalmology Otoneurology (tests) Ultrasonography (tests) Radiology (exams)	11,052 1,063 2,941 210 978 419 444 28,834	10,211 1,088 2,732 148 869 477 365 29,352
		Laboratories: Eyc pathology (speeimens) ENT pathology (specimens) Clinical laboratory (procedures) Baeteriology (cultures)	3,923 10,655 104,910 13,765	3,924 11,270 101,462 13,762

Members of the Corporation

1934	Hon. Robert F. Bradford,
	honorary
1948	August R. Meyer
1948	Miss Amelia Pcabody,
	honorary
1951	Hon. Francis W. Hatch, Jr
	honorary
1951	Melville Chapin
1951	Henry K. Porter
1952	George A. McLaughlin, S
1955	Richard P. Chapman
1955	Weston Howland, Jr.
1957	William L. Saltonstall
1963	Thomas B. Frost
1963	Frederick H. Lovejoy,
	honorary
1965	George M. Lovejoy, Jr.
1965	Mrs. John Lowell
1965	Frederick C. Rozelle, Jr.
1966	Francis S. Hill, honorary
	,

1966 Leo F. Daley, Sr. 1967 Paul A. Chandler, M.D., honorary 1967 Edwin B. Dunphy, M.D.,

James I. Summers

Robert Bacon

1966

1966

honorary 1967 Mrs. F. Murray Forbes

1967 John M. Lord Leroy A. Schall, M.D. 1967 1967 William F. Spang

1967 Monte J. Wallace 1968 Colin McA. Cunningham

1969 Richard W. Young, Ph.D. 1970 Ephron Catlin, Jr.

1970 Mrs. Frederick R.H. Witherby Avram J. Goldberg 1971

1971 Robert C. Jordan 1971 Mrs. Robert C. Meisel

1971 Robert D. Williams

1972 Matthew J. Burns 1972 Leo H. Daley

1972 Mrs. William P. Ellison 1972. Richard Harte

1973 Dominic P. Di Maggio

J. Frank Gerrity 1973 1973 Robert T.P. Storer, Ir.

1973 Frederick G.P. Thorne

1974 Brucc A. Beal William C. Mercer 1974

1975 Bernard R. Baldwin 1975 William Salatich

1976 Walter A. Rosenblith, ING. RAD.

1976 Gustave M. Solomons Sr. 1976 Mrs. Sally Stone

1976 Frederick Winthrop, Jr.

1977 Mrs. Lillian Fishburn 1977 Herbert W. Gray

Stanley G. Russell, Jr. 1977 1977 Sandra Carnegie Steele 1977 Mrs. Alice W. Yancey

1978 R. Widmer Hubbs

1979 William H. Claflin IV 1979 Thomas L. Ralcigh, Ir.

1979 Mrs. Erncst J. Sargeant 1979 Miss Ann Sargent

1980 Haynes H. Fellows, Jr. 1980 Thomas Reardon

1980 Eli Shapiro, Ph.D. 1980 **Endicott Smith**

Board of Managers

Melville Chapin, Chairman Robert C. Jordan, President August R. Meyer, Treasurer Mrs. John Lowell, Secretary John O'Sullivan Francis* J. Frank Gerrity Edward E. Jacobs, Jr., M.D.* George M. Lovejoy, Jr. Henry K. Porter Stanley G. Russell, Jr. William F. Spang

James I. Summers Robert D. Williams Mrs. Frederick R.H. Witherby

*Appointed by the Commonwealth

Standing Committees

Accreditation Committee Matthew J. Burns, Chairman Daniel M. Albert, M.D. Margarete L. Arndt Elcanor Bushman Lco H. Dalcy Claes H. Dohlman, M.D. Richard Giovanoni Max L. Goodman, M.D. Iudith M. Grant Judith Harvey, R.N. Barbara Houtman Jeffrey R. Kelly Herbert Kirshnit August R. Meyer Edward H. Moore Thomas J. Mulvaney, M.D. Harold F. Schuknecht, M.D. S. Madeline Shipsey Richard J. Simmons, M.D. Porter H. Smith, M.D. Charles Snyder Alfred L. Weber, M.D.

Audit Committee

Charles T. Wood

Alfred D. Weiss, M.D.

Robert D. Williams

Stanley G. Russell, Jr., Chairman Thomas B. Frost Herbert W. Grav Monte J. Wallace

Budget Committee

Robert C. Jordan, Chairman Margarete L. Arndt Julianne T. Buono Claes H. Dohlman, M.D. Anne M. Gilmer Judith M. Grant Judith Harvey, R.N. Jeffrey R. Kelly William W. Montgomery, M.D. Edward H. Moore Charles D.J. Regan, M.D. Anthony P. Reis Harold F. Schuknecht, M.D. Porter H. Smith, M.D. William F. Spang **Bctty Stanford** James I. Summers Richard A. Thoft, M.D. Alfred L. Weber, M.D. Charles T. Wood Alice W. Yancey

Executive Committee

Robert C. Jordan, Chairman Mclville Chapin Claes H. Dohlman, M.D. Mrs. John Lowell August R. Meyer Thomas J. Mulvaney, M.D. Thomas L. Raleigh, Jr. Harold F. Schuknecht, M.D. Richard J. Simmons, M.D. Porter H. Smith, M.D. James 1. Summers Charles T. Wood

Robert D. Williams, Chairman Julianne T. Buono Lco H. Daley Max L. Goodman, M.D. W. Morton Grant, M.D.

Human Studies Committee

Robert S. Kimura, Ph.D. Robert W. Lamont-Havers, M.D. Harold F. Schuknecht, M.D. Sandra Carnegie Steele

Robert T.P. Storer, Jr. Richard A. Thoft, M.D. Charles T. Wood

Investment Committee

August R. Meyer, Chairman Melville Chapin J. Frank Gerrity Richard Harte Robert C. Jordan Anthony P. Reis Frederick C. Rozelle, Jr. Charles T. Wood

Nominating Committee

Leo F. Daley, Sr., Chairman Melville Chapin Richard Harte August R. Meyer Robert D. Williams Charles T. Wood

Personnel and Pension Committee

Henry K. Porter, Chairman Thomas B. Frost R. Widmer Hubbs Robert C. Jordan Jeffrey R. Kelly Mrs. Robert C. Meisel Robert T.P. Storer, Jr. Robert D. Williams Charles T. Wood

Planning Committee

James I. Summers, Chairman Margarete L. Arndt Julianne T. Buono Claes H. Dohlman, M.D. J. Frank Gerrity Jeffrey R. Kelly John M. Lord George M. Lovejoy, Jr. Thomas J. Mulvaney, M.D. Anthony P. Reis Harold F. Schuknecht, M.D. Richard J. Simmons, M.D. Porter H. Smith, M.D. Charles T. Wood

Public Relations and Development Committee

Melville Chapin, Chairman Bernard R. Baldwin Colin McA. Cunningham Dominic P. DiMaggio Anne M. Gilmer Mrs. John Lowell Richard J. Simmons, M.D. James 1. Summers Charles T. Wood

Other Committees and Groups

Library and Archives Committee

Abraham Pollen, M.D.,
Chairman
Henry F. Allen, M.D.
Richard L. Dallow, M.D.
Claes H. Dohlman, M.D.
Edwin B. Dunphy, M.D.
Oscar Handlin, Ph.D.
B. Thomas Hutchinson, M.D.
John W. Irwin, M.D.
Jeffrey R. Kelly
Nelson Y.S. Kiang, Ph.D.
Robert S. Kimura, Ph.D.
C. Robin LeSueur
William W. Montgomery, M.D.

Building Subcommittee
J. Frank Gerrity, Chairman
Julianne T. Buono
Robert C. Jordan

Thomas J. Mulvaney, M.D.

Harold F. Schuknecht, M.D.

Porter H. Smith, M.D.

Richard A. Thoft, M.D.

Charles Snyder

Charles T. Wood

Cambridge Street Community
Development Corporation
Julianne T. Buono
R. Widmer Hubbs
Sandra Carnegie Steele

Energy Conservation

Charles T. Wood

Committee
William C. Mercer, Chairman
Andrew B. Baker
Joseph Bellefontaine
Arthur Doherty
Cecil K. Drinker
Anne M. Gilmer
Herbert I. Kirshnit
Alexander MacArthur
Edward H. Moore
Robert Marshall
James G. McMahon

Controlled Risk Insurance Company August R. Meyer

Professional Services Review Committee William G. Lavelle, M.D., Chairman Daniel M. Albert, M.D. Margarete L. Arndt Frank G. Berson, M.D. Max L. Goodman, M.D. Judith Harvey, R.N. B. Thomas Hutchinson, M.D. Byron S. Lingeman, M.D. David E. Nash, M.D. Rufus C. Partlow, M.D. Harold F. Schuknecht, M.D. Porter H. Smith, M.D. Richard A. Thoft, M.D.

Charles T. Wood

Program Evaluation
Committee
Charles T. Wood, Chairman
Lloyd Axelrod, M.D.
Julianne T. Buono
Claes H. Dohlman, M.D.
B. Thomas Hutchinson, M.D.
Roy A. Johnson, M.D.
Robert C. Jordan
Jeffrey R. Kelly
William W. Montgomery, M.D.
Charles D.J. Regan, M.D.
Anthony P. Reis
Stanley G. Russell, Jr.
Harold F. Schuknecht, M.D.

Porter H. Smith, M.D.

Alfred L. Weber, M.D.

Richard A. Thoft, M.D.

Social Services Advisory Committee Mrs. Robert C. Meisel, Chairman Elaine D. Carrol, M.D. Barbara J. Dawson Ruth Farrisey, R.N. Suzanne Frederick George E. Garcia, M.D. Judith Harvey, R.N. Deborah Hyland, R.N. Jeffrey R. Kelly Kenneth R. Kenyon, M.D. Mrs. John Lowell Donna Montgomery Rhoda Morrison Ioseph B. Nadol, Jr., M.D. Rosanne Ring S. Madeline Shipsey Alfred Weiss, M.D. Charles T. Wood

Legislative Committee Thomas L. Raleigh, Jr., Chairman Anne M. Gilmer Edward E. Jacobs, Jr., M.D. Thomas Reardon Charles T. Wood

Research Advisory Committee
Walter A. Rosenblith,
Chairman
Julianne T. Buono
Claes H. Dohlman, M.D.
Nelson Y.S. Kiang, Ph.D.
Alexander Leaf, M.D.
Robert G. Petersdorf, M.D.
Harold F. Schuknecht, M.D.
Eli Shapiro, Ph.D.
Charles T. Wood

General Director Charles T. Wood

Assistant Director for Planning
Julianne T. Buono

Assistant Director for Development and Public Affairs Anne M. Gilmer

Assistant to the Director Patricia McCabe

Consultant to the General Director for Development and Public Affairs E Weston Prior

Associate Director for Management Systems Margarete L. Arndt

Associate Director for Fiscal Affairs
Anthony P. Reis

Associate Director for Administration
Jeffrey R. Kelly

Administrative Assistant Judith Grant

Director of Nursing Judith Harvey, R.N.

Assistant Administrator Edward H. Moorc

Director of Personnel Betty Stanford

Assistant Administrator for Ambulatory Services Dennis White

Departments and Services

Accounting
Andrew B. Baker, Manager

Accounts Receivable
Helen Cantwell, Manager

Admitting Ruth Dorfman, R.N., Manager

Costs/Budgets Thomas Slowcy, *Manager*

Dietary Services Herbert I. Kirshnit, *Director*

Maintenance Services Robert Marshall, Director

Medical Records
Barbara Houtman, Director

Purchasing and Stores Lehan Power, Director

SchedulingMary Louisc Davis, *Manager*

Security and ParkingJames G. McMahon, *Manager*

Volunteer Services Rosanne Ring, *Director* **Executive Committee** Mrs. Albert R. Frederick, Jr., President Mrs. Robert C. Meisel, First Vice President Mrs. Silvio vonPirquet, Second Vice President Mrs. Harold F. Schuknecht, Treasurer Mrs. John Lowell, Recording Secretary Mrs. Calvin A. King, Corresponding Secretary Mrs. Kweku Ghartey, Membership Chairman Mrs. Howard M. Ecker, Legislative Chairman Donna J. Montgomery, Immediate Past President Mrs. Edgar H. Kent

Members Mrs. Henry F. Allen Mrs. D. Robert Alpert Mrs. Manning Barry Mrs. Barry Benjamin Mrs. Mauricc Berlin Mrs. Yale Berry Mrs. C.J. Boulris Mrs. Richard Bowman Mrs. Harry E. Braconier Mrs. Edwin J. Carr Mrs. John Carroll III Mrs. Malcolm B. Carsley Mrs. Thomas Cavanaugh Mrs. Richard B. Chapman Mrs. Julian F. Chisholm, Jr. Mrs. Nathaniel D. Clapp Susanne C. Summers Clorite Mrs. Thomas P. Cronin Mrs. Colin McA. Cunningham Miss Winifred Cunningham Mrs. Leo F. Daley Mrs. Benjamin Ć. Davis Mrs. Daniel F. DiPalma Mrs. Claes-Henrick Dohlman Mrs. Weld Douglass Mrs. Edgar Driscoll, Jr. Mrs. Edwin B. Dunphy Mrs. Howard M. Ecker Mrs. Phyllis Eliot Mrs. William Ellison Ms. Emilie Farnsworth Mrs. F. Murray Forbes Mrs. Albert R. Frederick, Jr. Mrs. Richard R. Gacek Mrs. Harold S. Geneen Mrs. Kweku Ghartey Mrs. Avram J. Goldberg Mrs. Robert L. Goodale Mrs. Max Goodman Mrs. W. Morton Grant Mrs. Trygve Gundersen Mrs. Thomas L. Higgins

Mrs. Trygve Gundersen Mrs. Thomas L. Higgins ** Mrs. Valentine Hollingsworth Mrs. Edgar M. Holmes Mrs. Alfred L. Hurst Mrs. Edward E. Jacobs, Jr. Mrs. Carl C. Johnson Mrs. Roy A. Johnson Mrs. Robert C. Jordan

^{**}Deceased

Massachusetts Eye and Ear Infirmary Medical Staff

All listings as of December 10, 1980

Mrs. Ruth Kccfe
Mrs. James H. Kclly
Mrs. Edgar H. Kent
Mrs. Calvin A. King
Mrs. Herbert Kirshnit
Mrs. Thomas R. Klein
Mrs. Robert E. Klotz
Mrs. Clarence E. Knapp
Mrs. Milton Knight
Mrs. Robert F. Kurtz
Mrs. Clarence E. Kylander
Mrs. J. Richard Lamere

Mrs. William Lavellc Mrs. Bertram H. Loewenberg Mrs. Robert H. Lofgren

*Mrs. John Lowell Mrs. Henry Lyman, Jr. Miss Anita Mangiaracine Mrs. Arthur E. Margulies Mrs. David B. McClosky Mrs. J. Wallace McMecl *Mrs. Robert C. Meiscl

Mrs. Daniel Miller Mrs. G. Gardner Monks * Donna J. Montgomcry

Mrs. Frederick S. Moseley III Mrs. Stephen P. Mugar Mrs. Joseph Nadol

Mrs. James J. O'Donnell Mrs. I. D. Okamura

Mrs. George M. Olive, Jr. Mrs. Irving Pavlo

Mrs. Enid Fay Phillips Mrs. Henri Prunaret

Mrs. Franklin Reece Mrs. P. Loring Reed, Jr.

Mrs. Charles D.J. Regan

Miss Florence Reid Mrs. Karl Riemer

Mrs. Aram Ropanian

Mrs. Aram Roopenian Mrs. Milton Rosenthal

Mrs. Baruch Sachs Mrs. Ernest J. Sargeant

Mrs. Charles L. Schepens

Mrs. Harold F. Schuknecht Mrs. Alfred W. Scott

Mrs. Henry R. Scott

Mrs. Earl S. Seale Mrs. John G. Sebestyen

Mrs. Samuel Simons * Mrs. William A. Slade, Jr.

Mrs. Albert E. Sloane Mrs. Taylor R. Smith Mrs. George E. Stephenson

Mrs. Mildred Sullivan

* Mrs. James I. Summers
Mrs. Thomas C. Thacher
Mrs. John C. Thaver

Mrs. John C. Thayer Mrs. Silvio vonPirquet Mrs. Donald R. Weis

Mrs. Lyon Weyburn

Mrs. Roy R. Whecler Mrs. Henry R. Wile

Mrs. Henry R. Wile Mrs. William R. Wilson

Mrs. Andrew N. Winslow, Jr.

Mrs. Victor A. Wolff

Honorary Members Mrs. Loretta McLaughlin Mrs. Rosannc Ring Joint Staff Executive Committee

Richard J. Simmons, M.D., Chairman
A. Robert Bellows, M.D.
Claes H. Dohlman, M.D.
C. Edward Jackson, M.D.
Robert C. Jordan
Jay H. Kaufman, M.D.
William G. Lavelle, M.D.
William W. Montgomery, M.D.
Angelo Pappanikou, M.D.
Harold F. Schuknecht, M.D.
Porter H. Smith, M.D.
Taylor R. Smith, M.D.
William R. Wilson, M.D.
Charles T. Wood

Otolaryngology

Active Staff

Chief of Otolaryngology Harold F. Schuknecht, M.D.

Surgeons in Otolaryngology William L. Hayden, M.D. Alfred L. Hurst, M.D. Thomas R. Klein, M.D. Robert E. Klotz, M.D. Robert H. Lofgren, M.D. William W. Montgomery, M.D. Harold F. Schuknecht, M.D.

Associate Surgeons in Otolaryngology

Yale J. Berry, м.D. Robert P. Cipro, M.D. Allan G. Edwards, M.D. Richard C. Fabian, M.D. C. Edward Jackson, M.D. Roy A. Johnson, M.D. Donald G. Keamy, M.D. John M. Kurkjian, M.D. Clarence Kylander, M.D. Carl M. Lieberman, M.D. Joseph A. Moretti, M.D. Thomas J. Mulvaney, M.D. Joseph B. Nadol, Jr., M.D. Angelo Pappanikou, M.D. Rufus C. Partlow, M.D. Marshall S. Strome, M.D. Richard C. Webster, M.D. William R. Wilson, M.D.

Assistant Surgeons in Otolaryngology Barry J. Benjamin, M.D. Edward G. Glinski, M.D. James P. Hughes, M.D. Edward E. Jacobs, Jr., M.D. James H. Kelly, M.D. Ely A. Kirschner, M.D.

William G. Lavellc, M.D. Jon B. Liland, M.D. Stephen A. Smith, M.D.

Assistants in Otolaryngology

Stuart H. Bentkover, M.D. Elaine D. Carrol, M.D. Louise I. DiGregorio, M.D. Howard M. Ecker, M.D. James H. Kelly, M.D. Charles Leidner, M.D. Trevor J.I. McGill, M.D. David E. Nash, M.D. Joscph H. Oyer, M.D. Stephcn A. Parker, M.D. Edward J. Reardon, M.D. Syed S. Rizvi, M.D. Howard G. Smith, M.D. Alfred D. Weiss, M.D.

Consulting Staff

Consulting Chief of Otolaryngology Leroy A. Schall, M.D.

Senior Consulting Surgeons in Otolaryngology Walter J.E. Carroll, M.D.

Walter J.E. Carroll, M.D.
J. Charles Drooker, M.D.
John R. Frazee, M.D.
Robert L. Goodale, M.D.
Edgar M. Holmes, M.D.
John E. McKeigue, M.D.
Daniel Miller, M.D.
John R. Richardson, M.D.
Bernard Zonderman, M.D.

Senior Consulting Associate Surgeons in Otolaryngology Aram Roopenian, M.D. John C. Trakas, M.D.

Honorary Staff

Associate Surgeons in Otolaryngology Charles Kent, M.D. Herman J. Sternstein, M.D.

Assistant Surgeon in Otolaryngology Elizabeth DeBlois, M.D.

Assistant in Otolaryngology Frank W. Brady, M.D.

Associate Staff

Associate Surgeon in Otolaryngology Werner D. Chasin, M.D.

Assistants in Otolaryngology Robert Wayne Clubb, M.D. Marvin P. Fried, M.D. Bradley Hall, M.D. Steven B. Hopping, M.D. J. Cameron Kirchner, M.D. H. Clifford Patterson, M.D. John N. Vandemoer, M.D.

Consultant in Prosthodontia Peter E. Goldberg, D.D.S..

Clinical Associate in Otolaryngology-Voice Therapy David B. McClosky, M.D.

Services

Subdivision of Plastic and Reconstructive Surgery

Richard C. Fabian, M.D. Chief of Plastic and Reconstructive Surgery

Aram Roopenian, M.D.
Senior Consulting Associate
Surgeon in Plastic and
Reconstructive Surgery

Richard C. Webster, M.D.

Associate Surgeon in Plastic
and Reconstructive Surgery

Edward E. Jacobs, M.D.

Assistant Surgeon in Plastic
and Reconstructive Surgery

William G. Lavelle, M.D.

Assistant Surgeon in Plastic
and Reconstructive Surgery

Howard E. Ecker, M.D.

Assistant in Plastic and
Reconstructive Surgery

John N. Vandemoer, M.D. Assistant in Plastic and Reconstructive Surgery

Subdivision of Otolaryngologic Pathology Max L. Goodman, M.D.,

Director
Ben Z. Pilch, M.D.,
Assistant in Pathology

Head and Neck Tumor Clinic William W. Montgomery, M.D., Director

Endoscopy Service
William W. Montgomery, M.D.,
Director
Thomas J. Mulvaney, M.D.,
Associate Director

Esophageal Voice Classes Eve Herbert, Director

Audiology Rhoda K. Morrison, Director

Residents

Peter S. Ambrus, M.D. Alfonso Barrera, M.D. Paul J. Carniol, M.D. Zeno N. Chicarilli, M.D. Edward D. Donovan, M.D. Roland D. Eavey, M.D. Mark S. Granich, M.D. Aina J. Gulya, M.D. Maynard C. Hansen, M.D. Martin L. Hopp, Ph.D., M.D. Michael P. Joseph, M.D. Michael J. Kaplan, M.D. Thomas A. Mustoe, M.D. Charles M. Norris, M.D. Jeffrey V. Stein, M.D. Seth R. Thaller, M.D. David N. Vernick, M.D. Michael A. Williams, M.D.

^{*} Past President

Ophthalmology

Active Staff

Chief of Ophthalmology Claes H. Dohlman, M.D.

Associate Chiefs of Ophthalmology Charles D.J. Regan, M.D. Richard A. Thoft, M.D.

Surgeons in Ophthalmology S. Arthur Boruchoff, M.D. Robert J. Brockhurst, M.D. Richard B. Chapman, M.D. Thomas P. Cronin, M.D. Claes H. Dohlman, M.D. David D. Donaldson, M.D. Stephen I. Fricker, M.D. George E. Garcia, M.D. John R. Gehring, M.D. W. Morton Grant, M.D. Warren D. Haley, M.D. B. Thomas Hutchinson, M.D. Robert C. Lawlor, M.D. Byron S. Lingeman, M.D. J. Wallace McMeel, M.D. Irving L. Pavlo, M.D. Charles D.J. Regan, M.D. Alfred W. Scott, M.D. David H. Scott, M.D. Richard J. Simmons, M.D. Taylor R. Smith, M.D. Richard A. Thoft, M.D.

Associate Surgeons in Ophthalmology Lloyd M. Aiello, M.D. Daniel M. Albert, M.D. A. Robert Bellows, M.D. Eliot L. Berson, M.D. Charles K. Beyer, M.D. John M. Carroll, M.D. Albert R. Frederick, Jr., M.D. H. MacKenzie Freeman, M.D. Robert A. Gorn, M.D. Ralph H. Hinckley, M.D. Roland E. Houle, M.D. Joseph C. Kim, M.D. Joel A. Kraut, M.D. Eeva-Liisa Martola, M.D. George M. Olive, M.D. Deborah Pavan-Langston, M.D. Robert A. Petersen, M.D. Ronald C. Pruett, M.D. Perry Rosenthal, M.D. Baruch J. Sachs, M.D. John G. Sebestyen, M.D. Harvey H. Slansky, M.D. Silvio R. vonPirquet, M.D. David S. Walton, M.D. Donald R. Weis, M.D. Michael S. Wiedman, M.D.

Associate Physician in Ophthalmology Shirley H. Wray, M.D.

Assistant Surgeons in Ophthalmology

Don C. Bienfang, M.D. Chester J. Boulris, M.D. Jack F. Bowers, M.D. Leo T. Chylack, Jr., M.D. Eugene C. Ciccarelli, M.D. Richard L. Dallow, M.D. David K. Dueker, M.D. David L. Epstein, M.D. Elliot M. Finkelstein, M.D. Richard P. Floyd, M.D. Alexander R. Gaudio, M.D. Evangelos S. Gragoudas, M.D. David Z. Greenseid, M.D. Arthur S. Grove, Jr., M.D. Tatsuo Hirose, M.D. David S. Hutchison, M.D. Eric H. Johnson, M.D. Jay H. Kaufman, M.D. Mohandas M. Kini, M.D. Arnold J. Kroll, M.D. Brent W. Lambert, M.D. James R. Lee, M.D. Ernst Mever, M.D. Joseph Michon, Jr., M.D. David Miller, M.D. Peter B. Mooney, M.D. Edward B. Murphy, Jr., M.D. David G. Perkins, M.D. Donald W. Putnoi, M.D. Richard M. Robb, M.D. Kenneth A. Stampfer, M.D. Felipe I. Tolentino, Jr., M.D. David W. Tolpin, M.D. Clement Trempe, M.D. Paul F. Vinger, M.D.

Assistants in Ophthalmology Mark B. Abelson, M.D. Ann Marie Bajart, M.D. C. Davis Belcher III, M.D. Frank G. Berson, M.D. John B. Constantine, M.D. Stephen R. Deppermann, M.D. C. Stephen Foster, M.D. Kweku Ghartey, M.D. Edward F. Goodman, M.D. Philip J. Harris, M.D. David A. Hill, M.D. Barry H. Jacobs, M.D. Kenneth R. Kenyon, M.D. Robert T. Lacy, M.D. Raymond R. Liggio, M.D. James T. Patten, M.D. Charles T. Post, Jr., M.D. Thomas M. Richardson, M.D. James Rosenberg, M.D. Edward A. Ryan, M.D. Caldwell W. Smith, M.D. David M. Tracy, M.D. George A. Violin, M.D. Mohammed Z. Wafai, M.D. Safa Wagdi, M.D. Harold A. Woodcome, M.D. Johan Zwaan, M.D.

Associate Staff

Assistants in Ophthalmology Michael Bradbury, M.D. Peter L. Lou, M.D. Richard Low, M.D. Leon Remis, M.D. Theodore J. Renna, M.D. John V. Thomas, M.D. John Weiter, M.D.

Consulting Staff

Consulting Chiefs in Ophthalmology

Henry F. Allen, M.D. Paul A. Chandler, M.D. David G. Cogan, M.D. Edwin B. Dunphy, M.D.

Senior Consulting Surgeons in Ophthalmology

D. Robert Alpert, M.D. Harry E. Braconier, M.D. Virgil G. Casten, M.D. Joseph M. Clough, M.D. Mahlon T. Easton, M.D. Trygve Gundersen, M.D. Carl C. Johnson, M.D. Brendan D. Leahey, M.D. Sumner D. Liebman, M.D. Henry A. Mosher, M.D. Ichiro D. Okamura, M.D. Abraham Pollen, M.D. Karl Riemer, M.D. Charles L. Schepens, M.D. Earl S. Seale, M.D. Albert E. Sloane, M.D. Garrett L. Sullivan, M.D. Francis J. West, M.D.

Honorary Staff

Associate Surgeons in Ophthalmology
Frederick B. Breed, M.D.

Carl G. Freese, M.D. John M. Hill, M.D.

Assistant Surgeons in Ophthalmology

Julian F. Chisholm, M.D. Robert Kinder, M.D. Arthur M. Morrissey, M.D. Bertha Offenbach, M.D.

Assistant in Ophthalmology Robin Cook, M.D.

Services

General Eye Service Charles D.J. Regan, M.D., Director

Glaucoma Service W. Morton Grant, M.D., Director

Cornea Service Kenneth R. Kenyon, M.D., Director

Motility-Pediatrics Service Stephen J. Fricker, M.D., Director

Neuro-Ophthalmology Service Shirley H. Wray, M.D., Director

Retina Service Charles D.J. Regan, M.D., Director

Plastic-Orbit Service Arthur S. Grove, Jr., M.D., Acting Director

Ophthalmic Pathology
Daniel M. Albert, M.D.,
Director

Resident Training
C. Stephen Foster, M.D.,
Director
Anthony J. Fraioli, M.D.,
Assistant Director

Clinical Fellows in Ophthalmology

Retina Service Saeid Abedin, M.D. Eduardo C. Baranano, M.D. Clifton H. Beasley, Jr., M.D. Mark Bronstein, M.D. Sheldon M. Buzney, M.D. John A. Distler, M.D. Joseph J. Fammartino, M.D. Kenneth S. Felder, м.D. Glenn J. Green, M.D. Patrick C. Ho, M.D. Martin A. Mainster, M.D. George Moo-Young, M.D. Julian J. Nussbaum, M.D. Roland Sabates, M.D. Delia N. Sang, M.D. Harvey W. Topilow, M.D. Shelby R. Wilkes, M.D. Glenn L. Wing, M.D. Dean J. Yimoyines, M.D.

Cornea Service
Jettie M. Burnett, M.D.
Elisabeth J. Cohen, M.D.
Michael E. Hettinger, M.D.
Jeffrey P. Gilbard, M.D.
Deborah D. Sendele, M.D.
Ira J. Udell, M.D.

Glaucoma Service
Robert C. Allen, M.D.
William P. Boger III, M.D.
(part-time)
Joseph F. Burke, M.D.
(part-time)
Peter F. DeBlasio, M.D.
Dorothy J. Horns, M.D.
Michael G. Kahn, M.D.
Maura Santangelo, M.D.
Omah Singh, M.D.

Neuro-Ophthalmology John R.W. Taylor, M.D. Michael Wall, M.D.

Eye Pathology
Eleanor Coughlin-Wilkinson,
Chief Technician
Johanna M. Scddon, M.D.

Plastic and Reconstructive Surgery Miriam T. Dougherty, M.D. Susan M. Hughes, M.D. Steven G. Pratt, M.D.

PediatricAnthony J. Fraioli, M.D.

Residents

Claudia A. Arrigg, M.D. George Arzeno, M.D. Donald J. D'Amico, M.D. Thaddcus P. Dryja, M.D. Phillip M. Gendelman, M.D. Pcter C. Gruenberg, M.D. Shalom J. Kieval, M.D. Henry J. Kricgstein, M.D. Steven Leibowitz, M.D. John C. Merriam, M.D. Kambiz Moazed, M.D. Carmen A. Puliafito, M.D. Arnold R. Rabin, M.D. Claudia U. Richter, M.D. Alfredo A. Sadun, M.D. Jerry Sebag, M.D. Bradford J. Shingleton, M.D. Richard J. Sidd, M.D. Lois E. Smith, M.D. Frank A. Spellman, M.D. Roger F. Stcinert, M.D. John H. TenPas, M.D. Michael D. Wagoner, M.D. Robert C. Ward, M.D.

New England Eye Bank

Valerie Pelham, R.N., Executive Director S. Arthur Boruchoff, M.D. Richard A. Thoft, M.D. Medical Co-Directors

England Eye Bank
Haynes H. Fellows, Jr.,
Chairman
John K. Benson, Jr.
S. Arthur Boruchoff, M.D.
Mrs. Malcolm B. Carsley
Mrs. James W. Dawsen, Jr.
Endicott Smith
Richard A. Thoft, M.D.
Charles T. Wood

Executive Committee of New



Department of Anesthesiology

Active Staff

Chief of Anesthesiology Porter H. Smith, M.D.

Anesthesiologists John V. Donlon, Jr., M.D. Jin Woo Kim, M.D.

Assistant Anesthesiologists Malcolm J. Heslop, M.D. Charles G. Kelley, M.D. Daniel W. Lang, M.D. Kathryn E. McGoldrick, M.D. Janine T. Rodrigues-Saldanha, M.D.

Assistants in Anesthesiology Ismail Seda Sensel, M.D. Heinrich R. von Helmstatten,

Associate Staff

Assistants in Anesthesiology (part-time) Daniel F. Dedrick, M.D.

Mary Kraft, M.D.
Daniel Nozik, D.D.S.
Carl E. Rosow, M.D.

Clinical Research Associate Jonathan Moss, M.D.

Department of Radiology

Active Staff

Chief of Radiology Alfred L. Weber, M.D.

Associate Radiologist K. Jack Momose, M.D.

Associate Staff

Assistant in Radiology Chung Min Lee, M.D.

Consulting Staff

Consultants in Radiotherapy Milford D. Schulz, M.D. Herman D. Suit, M.D. Chiu-Chen Wang, M.D.

Clinical Associates in Radiology Jeanne Keller, M.D.

Daniel Kido, M.D. John R. Hesselink, M.D.

Chief Technologist

Gcorge Carrozza

Medical Unit

Active Staff

Chief of Medical Unit Lloyd Axelrod, M.D.

Consultants in Internal Medicine Lloyd Axelrod, M.D. Gerald Doyle, M.D. Richard A. Field, M.D.

Epidemiologist and Consultant in Infectious Diseases; Associate Medical Director of Bacteriology Ann S. Baker, M.D.

Associate Staff

Consultants in Internal Medicine

F. Richard Bringhurst, M.D.
Daniel Carr, M.D.
Norman Lctvin, M.D.
Robert Schooley, M.D.
David Steinhaus, M.D.
David Weber, M.D.
Randall Zusman, M.D.

Consultant in Medicine (Pediatrics) Ruth Liberfarb, M.D.

Clinical Services

Clinical Laboratory
Eleanor Bushman,
Chief Medical Technologist

Microbiology Joan Haaf, Bacteriologist

Operating Room
Evelyn Brewster, R.N.,
Director of Surgical Services

Pharmacy Richard Giovanoni, Director

Social ServiceS. Madeline Shipsey, *Director*

Department of Ophthalmology

Howe Laboratory of **Ophthalmology** Clacs H. Dohlman, M.D., Director Daniel M. Albert, M.D. P. John Anderson, Ph.D.. Don C. Bienfang, M.D. Hong-Ming Cheng, Ph.D. Leo T. Chylack, Jr., M.D. David D. Donaldson, M.D. David K. Dueker, M.D. David L. Epstein, M.D. Stephen J. Fricker, M.D. M. Kathryn Gillis, Ph.D. W. Morton Grant, M.D. Judith Jcdziniak-McGregor, Ph.D. Donovan J. Pihlaja, Ph.D.

Librarian Charles Snyder

Research Administrator Cecil K. Drinker, M.B.A.

Thomas M. Richardson, M.D.

Shirley H. Wray, M.D., Ph.D.

Johan Zwaan, M.D., Ph.D.

Research Fellows
David G. Birch, Ph.D.
Shigeru Kinoshita, M.D.
D. Luisa Mayer, Ph.D.
John J. Papale, M.D.
S. Scott Searl, M.D.
Johanna Seddon, M.D.
Antonia Tineo-Boada, M.D.
John K. Wolfe, Ph.D.

Visiting Professor of Ophthalmology Ni Chou, M.D.

Berman-Gund Laboratory for the Study of Retinal Degenerations Eliot L. Berson, M.D.,

Director
Roslyn Neustadt,
Manager
Ross B. Edwards, Ph.D.
Michael A. Sandberg, Ph.D.
Susan Y. Schmidt, Ph.D.
R. Bruce Szamicr, Ph.D.

Research Associate in Ophthalmology Ernst G. Wolf, Ph.D.

Department of Otolaryngology

Eaton Peabody Laboratory Nelson Y.S. Kiang, Ph.D., Director Terrance R. Bourk, Ph.D. Robert M. Brown, B.A. Steven H. Colburn, Ph.D. Alan H. Crist, s.B. Bertrand Delgutte, M.S. Barbara C. Fullcrton, Ph.D. John J. Guinan, Jr., Ph.D. Thomas Holton, S.M. Victor B. Kava, B.S. Elizabeth M. Kcithley, Ph.D. Robert A. Levine, M.D. M. Charles Liberman, Ph.D. Thomas J. Lynch III, s.m. Joseph B. Nadol, Jr., M.D. William T. Peake, Sc.D. William M. Rabinowitz, Ph.D. John J. Rosowski, Ph.D. David K. Ryugo, Ph.D. William F. Sewell, Ph.D. Frank J. Stefanov, B.S. David A. Steffens, s.B. Thomas F. Weiss, Ph.D.

Electron Microscopy Laboratory Robert S. Kimura, Ph.D., Director

Evoked Response Audiometry Laboratory Joseph B. Nadol, Jr., M.D., Director Aaron R. Thornton, Ph.D., Associate Director

Histopathology Laboratory Harold F. Schuknecht, M.D.

Microcirculatory Laboratory John W. Irwin, M.D., Director

Rhinolaryngology Research Laboratory William W. Montgomery, M.D., Director

Clinical Fellows in Otolaryngology Peter Hilger, M.D.

Research Fellows in Otolaryngology Lynn Goodloe-Green, M.D. Ken Kitamura, M.D. Shigcru Saijo, M.D. George M. Zaytoun, M.D.

Department of Otolaryngology

Walter Augustus LeCompte Professor of Otology and Laryngology Harold F. Schuknecht, M.D.

Professors of Otolaryngology William W. Montgomery, M.D.

Clinical Professor of Otolaryngology Daniel Miller, M.D.

Associate Professors of Otolaryngology Gerald B. Healy, M.D. Marshall S. Strome, M.D.

Assistant Professors of Otolaryngology
Marvin P. Fried, M.D.
James H. Kelly, M.D.
M. Charles Liberman, Ph.D.
Trevor J.I. McGill, M.D.
Joseph B. Nadol, Jr., M.D.
Aaron R. Thornton, Ph.D.
William R. Wilson, M.D.

Assistant Clinical Professor of Otolaryngology
Robert H. Lofgren, M.D.

Clinical Instructors in

Otolaryngology Barry J. Benjamin, M.D. Yale J. Berry, M.D. Elaine D. Carrol, M.D. Louise I. DiGregorio, M.D. Allan G. Edwards, M.D. Richard L. Fabian, M.D. Edward J. Glinski, M.D. William L. Hayden, M.D. Alfred L. Hurst, M.D. Edward E. Jacobs, M.D. Roy A. Johnson, M.D. Ely A. Kirschner, M.D. Thomas R. Klein, M.D. Robert E. Klotz, M.D. John M. Kurkjian, M.D. William G. Lavelle, M.D. Carl M. Lieberman, M.D. Jon B. Liland, M.D. Joseph A. Moretti, M.D. Thomas J. Mulvaney, M.D. David E. Nash, M.D. Angelo Pappanikou, M.D. Rufus C. Partlow, M.D. Edward J. Reardon, M.D. Syed S. Rizvi, M.D. Howard G. Smith, M.D. Stephen A. Smith, M.D. John C. Trakas, M.D.

Lecturers on Otolaryngology
Werner D. Chasin, M.D.
Richard R. Gacck, M.D.
Robert S. Kimura, Ph.D.
Walter A. Rosenblith, ING. RAD.
Richard C. Webster, M.D.
Toshio Yamashita, M.D.

Senior Research Associate in Otolaryngology Nelson Y.S. Kiang, Ph.D.

Research Associate in Otolaryngology Terrance R. Bourk, Ph.D.

Research Fellows in Otolaryngology Lynn J. Goodloe-Greene, M.D. Ken Kitamura, M.D. Shigeru Saijo, M.D. George M. Zaytoun, M.D.

Principal Associate in Otolaryngology
John W. Irwin, M.D.

Clinical Fellows in Otolaryngology Peter S. Ambrus, M.D. Alfonso Barrera, M.D. Paul J. Carniol, M.D. Zeno N. Chicarilli, M.D. Edward D. Donovan, M.D. Roland D. Eavey, M.D. Mark S. Granich, M.D. Aina J. Gulya, M.D. Bradley Hall, M.D. Maynard C. Hansen, M.D. Martin L. Hopp, M.D. Steven B. Hopping, M.D. Michael P. Joseph, M.D. Michael J. Kaplan, M.D. Cameron J. Kirchner, M.D. Thomas A. Mustoe, M.D. Charles M. Norris, M.D. Jeffrey V. Stein, M.D. Seth R. Thaller, M.D. David M. Vernick, M.D. Michael A. Williams, M.D.

Department of Ophthalmology

Professors of Ophthalmology Daniel M. Albert, M.D. Clacs H. Dohlman, M.D. W. Morton Grant, M.D.

Clinical Professor of Ophthalmology Henry F. Allen, M.D.

Associate Professors of Ophthalmology Mathca R. Allansmith, M.D. Michael M. Berman, Ph.D. Eliot L. Berson, M.D. Leo T. Chylack, Jr., M.D. David D. Donaldson, M.D. Stephen J. Fricker, M.D. Kenneth R. Kenyon, M.D. David Miller, M.D. Arthur H. Neufcld, Ph.D. Charles D.J. Regan, M.D. Liane Reif-Lehrer, Ph.D. Richard M. Robb, M.D. Richard A. Thoft, M.D. Shirley H. Wray, M.D.

Associate Clinical Professors of Ophthalmology Charles K. Beyer, M.D. S. Arthur Boruchoff, M.D. Robert J. Brockhurst, M.D. H. Mackenzie Freeman, M.D. Richard J. Simmons, M.D. Taylor R. Smith, M.D.

Assistant Professors of Ophthalmology Alan R. Adolph, Ph.D. Don C. Bienfang, M.D. Hong-Ming Cheng, Ph.D. Charles Cintron, Ph.D. Peter F. Davison, Ph.D. David K. Dueker, M.D. David L. Epstein, M.D. C. Stephen Foster, M.D. Ann B. Fulton, M.D. Ilene K. Gipson, Ph.D. Evangelos S. Gragoudas, M.D. Arthur S. Grove, Jr., M.D. Bernard J. Jacobson, Ph.D. Judith A. Jedziniak-McGregor, Luke H.S. Liu, M.D. Noritsugu Mukai, M.D. Robert A. Petersen, M.D. Susan Y. Schmidt, Ph.D. D. Max Snodderly, Jr., Ph.D. R. Bruce Szamier, Ph.D. David S. Walton, M.D. Johan Zwaan, M.D.

Assistant Clinical Professors of Ophthalmology
Lloyd M. Aiello, M.D.
A. Robert Bellows, M.D.
George E. Garcia, M.D.
Tatsuo Hirose, M.D.
B. Thomas Hutchinson, M.D.
J. Wallace McMeel, M.D.
Deborah Pavan-Langston, M.D.
Abraham Pollen, M.D.
Ronald C. Pruett, M.D.
Alfred W. Scott, M.D.
Felipe I. Tolentino, M.D.

Lecturers on Ophthalmology Moshe Lahav, M.D. David M. Maurice, Ph.D. Chou Ni, M.D. Guiseppina d'Elia Raviola, M.D.

Principal Associate in Ophthalmology Miguel F. Refojo, D.Sc.

Associates in Ophthalmology Bireswar Chakrabarti, Ph.D. Francois C. Delori, Ph.D. Marshall T. Doane, Ph.D. Cecil K. Drinker, M.B.A. Judith Friend, M.A. Donovan J. Pihlaja, Ph.D. Robert H. Webb, Ph.D. Instructors in Ophthalmology Alice J. Adler, Ph.D. P. John Anderson, Ph.D. Stephen P. Bartels, Ph.D. Frank G. Berson, M.D. Ross B. Edwards, Ph.D. Gilbert T. Fekc, Ph.D. Ronald M. Hansen, Ph.D. Erwin Hultsch, M.D. Timothy T. Kiorpes, Ph.D. Richard Leary, Ph.D. Martin A. Mainster, M.D. Peter L. Lou, M.D. No Hee Park, Ph.D. Benigno D. Pcczon, Ph.D. Richard L. Pharo, D.Sc. Lawrence Rand, M.D. Michael A. Sandberg, Ph.D. George T. Timberlake, Ph.D. Mohammed Z. Wafai, м.D.

Clinical Instructors in **Ophthalmology** Mark B. Abelson, M.D. William P. Boger III, M.D. John M. Carroll, M.D. Richard B. Chapman, M.D. Richard L. Dallow, M.D. Elliot M. Finkelstein, M.D. Albert R. Frederick, Jr., M.D. Alexander R. Gaudio, M.D. John R. Gehring, M.D. Ralph H. Hinckley, M.D. Roland E. Houle, M.D. Eric H. Johnson, M.D. Joseph C. Kim, M.D. Joel A. Kraut, M.D. Brent W. Lambert, M.D. Robert C. Lawlor, M.D. Byron S. Lingeman, M.D. Ernst J. Meyer, M.D. Joseph Michon, Jr., M.D. Edward B. Murphy, Jr., M.D. George M. Olive, Jr., M.D. Irving L. Pavlo, M.D. Thomas M. Richardson, M.D. Perry Rosenthal, M.D. Baruch J. Sachs, M.D. John G. Sebestyen, M.D. Harvey H. Slansky, M.D. Paul F. Vinger, M.D. Donald R. Weis, M.D. Michael S. Wiedman, M.D.

Clinical Assistants in Ophthalmology Ann M. Bajart, M.D. Jack F. Bowers, M.D. John B. Constantine, M.D. Howard L. Feldman, M.D. Richard P. Floyd, M.D. Kweku Ghartey, M.D. David Z. Greenseid, M.D. Peter P. Gudas, M.D. David S. Hutchison, M.D. Barry H. Jacobs, M.D. Jay H. Kaufman, M.D. Robert T. Lacy, M.D. James R. Lcc, M.D. Edward A. Ryan, M.D. Daniel W. Tolpin, M.D. Silvio R. von Pirquet, M.D. **Ophthalmology** Robert Allen, M.D. Claudia A. Arrigg, M.D. George Arzeno, M.D. Eduardo C. Baranano, M.D. Jettic M. Burnett, M.D. Elisabeth J. Cohen, M.D. Donald J. D'Amico, M.D. Anthony J. Fraioli, M.D. Phillip M. Gendelman, M.D. Peter C. Gruenberg, M.D. Michael Hettinger, M.D. Dorothy J. Horns, M.D. Michael G. Kahn, M.D. Shalom J. Kieval, M.D. Henry J. Kriegstein, M.D. John C. Merriam, M.D. Kambiz Moazed, M.D. Carmen A. Puliafito, м.D. Arnold R. Rabin, M.D. Claudia U. Richter, M.D. Alfredo A. Sadun, M.D. Jerry Sebag, M.D. Johanna M. Seddon, M.D. Deborah D. Sendele, M.D. Bradford Shingleton, M.D. Richard J. Sidd, M.D. Lois E. Smith, M.D. Frank A. Spellman, M.D. Roger F. Steinert, M.D. John H. TenPas, M.D. Íra J. Udell, м.D. Michael D. Wagoner, M.D. Robert C. Ward, M.D. Shelby R. Wilkes, M.D.

Clinical Fellows in

Research Fellows in **Ophthalmology** David G. Birch, Ph.D. Christine A. Burns, Ph.D. Antonia Tineo-Boada, M.D. Leslie Fujikawa, M.D. Jeffrey P. Gilbard, M.D. M. Kathryn Gillis, Ph.D. Shigeru Kinoshita, M.D. D. Luisa Mayer, Ph.D. John J. Papale, M.D. S. Scott Searle, M.D. John R.W. Taylor, M.D. Michael Wall, M.D. Richard P. Wetzig, M.D. John K. Wolfe, Ph.D.

Medical Unit

Associate Clinical Professor of Medicine Richard A. Field, M.D.

Assistant Professors of Medicine Lloyd Axelrod, M.D. Ann S. Baker, M.D. Randall Zusman, M.D.

Clinical Associate in Medicine Gerald Doyle, M.D.

Instructor in Medicine F. Richard Bringhurst, M.D.

Clinical Instructor in Pediatrics
Ruth Liberfarb, M.D.

Instructor in Immunology Norman Letvin, M.D.

Research Fellows in Medicine Daniel Carr, M.D. Robert Schooley, M.D. David Weber, M.D.

Clinical Fellow in Medicine David Steinhaus, M.D.

Department of Anesthesiology

Assistant Clinical Professors of Anesthesiology John V. Donlon, Jr., M.D. Porter H. Smith, M.D.

Clinical Instructors in Anesthesiology Malcolm J. Heslop, M.D. Charles G. Kellcy, M.D. Jin Woo Kim, M.D. Daniel W. Lang, M.D. Kathryn E. McGoldrick, M.D. Janine T. Rodrigues-Saldanha, M.D.

Department of Radiology

Associate Professor of Radiology Alfred L. Weber, M.D.

Assistant Professors of Radiology Daniel Kido, M.D. K. Jack Momose, M.D.

Instructor in Radiology Chung Min Lee, M.D.

Professor Emeritus of Radiation Therapy Milford D. Schulz, M.D.

Professors of Radiation Therapy Herman D. Suit, M.D. Chiu-Chen Wang, M.D.

Publications

October 1, 1979—September 3, 1980 Compiled by the Lucien Howe Library

Administration

* WOOD Charles T.: A case for converting nursing service to a revenue producing department. Health Care Systems. AHA. Sum, 1980.

Department of Nursing

*DUPONT Jeanne.: EENT emergencies. Chapter in: *Dealing with emergencies*/edited by Patricia Reilly Urosevich.—Horsham, Pa. Intermed Communications Inc., 1980. pp. 56-67.

Department of Radiology

*HESSELINK John R, Weber AL, New PFJ et al.: Evaluation of mucoceles of the paranasal sinuses with computed tomography. Radiol 133:397-400, Nov 1979.

HESSELINK John R, Davis KR, Weber AL et al.: Radiologic evaluation of orbital metastases with emphasis on computed tomography. Radiol 137:363-6, 1980.

Hesselink John R, NEW PFJ, Aronow S.: National Cancer Institute Study: evaluation of computed tomography in the diagnosis of intracranial neoplasms. IV. Meningiomas. Radiol 136:665-75, 1980.

Hesselink John R, ZITO JL, David KR.: Low dose metrizamide cisternography with pleuridirectional tomography. A useful adjunct to computed tomographic cisternography. Surg Neurol 14:169-74, 1980.

Hesselink John R, DAVIS KR, Zito JL et al.: Metrizamide sagittal tomography as an adjunct to CT cisternography of the sella region. Am J Neuroradiol 1:193-6, 1980.

Hesselink John R, DAVIS JM, Davis KR et al.: Malignant glomus jugulare tumor: A case with two unusual radiographic features. J Comput Assist Tomogr 4:415-7, 1980.

Hesselink John R, PEYSTER RG, Davis KR.: Therapeutic embolization of lesions of the head, neck and spine. In: *Surgical radiology*/edited by J.G. Teplick, M. Haskins.— Philadelphia. W.B. Saunders, 1980.

Hesselink John R (See Dallow RL). KIDO Daniel K, LeMay M, Levinson AW et al.: Computed tomographic localization of the pericentral gyrus. Radiol 135:373-7, 1980.

Kido Daniel K, NAHEEDY MH, O'Reilly GV.: Computed tomographic evaluation of subdural and epidural metastases. J Comput Assist Tomogr 4:311-5, 1980.

MacMillan Alexander S Jr (See MOMOSE KJ).

MOMOSE K Jack, Taveras JM.: Radiological investigation of pituitary adenoma. Radiolog 2:1-15 Dec 1979.

MOMOSE K Jack, Weber AL, Goodman ML, MacMillan AS Jr, et al.: Radiological aspects of inverted papilloma. Radiol 134:73-9, Jan 1980. Weber Alfred L, GREENES RA: X-ray of the month. Intracranial chordoma. Ann Otol Rhinol Laryngol 89:100-1, Jan-Fcb 1980.

Weber Alfred L, DAVIS JM.: X-ray of the month. Pituitary adenoma presenting as a spenoid sinus lesion. Ann Otol Rhinol Laryngol 89:483-4, Sep-Oct 1980.

Weber Alfred L (See HESSELINK JR, MOMOSE KJ).

Department of Anesthesiology

*DONLON John V, Savarese JJ, Ali HH.: Cumulative dose-response curves for gallamine: effect of altered resting thumb tension and mode of stimulation. Anesth Analg 58:377-81, Oct 1979.

DONLON John V, Moss J.: Plasma catecholamine levels during local anesthesia for cataract surgery. Anesthesiol 51: 471-3, Nov 1979.

DONLON John V.: Cardiac arrhythmias during cataract surgery. Anesthesiol Rev 6:21-4, Dec 1979.

DONLON John V.: Anesthetic management of patients with compromised airways. Anesthesiol Rev 7:22-31. Feb 1980.

DONLON John V et al.: Human dose response curves for neuromuscular blocking drugs: a comparison of two methods of construction and analysis. Anesthesiol 53:161-6, Aug 1980.

KIM Jin W, Smith PH.: Timolol-induced bradycardia. Anesth Analg 59:301-3, Apr 1980.

Kim Jin W (See SMITH PH).

LANG Daniel, Pilon RN.: Naloxone reversal of morphine-induced biliary colic. Anesth Analg 59:619-0, Aug 1980.

Lang Daniel (See WILSON WR). McGOLDRICK Kathryn E.: Malignant hyperthermia: a review. JAMWA 35:95-8, Apr 1980.

McGoldrick Kathryn E, WAUGH ES.: On the history of JAMWA. JAMWA 35:137-9, Jun 1980.

McGOLDRICK Kathryn E.: Anesthetic implications of drug abuse. Anesthesiol Rev 7:12-17, Jul 1980.

McGOLDRICK Kathryn E.: Perioperative considerations for the hypertensive patient. JAMWA 35:212-4, Aug-Sep 1980.

SMITH Porter H, Kim Jin W.: Etidocaine used for retrobulbar block: a comparison with lidocaine. Ophthal Surg 11:268-73, Apr 1980. Smith Porter H (See KIM JW).

Medical Unit

*AXELROD Lloyd, Costa G.: The contribution of fat loss to weight loss in cancer. Nutr Cancer 2:81-3, 1980.

AXELROD Lloyd.: Steroids. Chapter in: *Textbook of rheumatology* / edited by W.N. Kelley et al.—Philadelphia. Saunders, 1981. pp. 822-40. BAKER Ann S.: Spinal cpidural abscess. Subdural empyema. Chapters in: International textbook of medicine, medical microbiology and infectious disease / edited by A.l. Braude.—Philadelphia. WB Saunders, 1980.

Department of Otolaryngology Surgical and Research Staffs

*Bentkover Stuart H (Scc SCHUKNECHT HF, WILSON WR). Carrol Elainc D (See WILSON WR).

CHASIN Werner D, Goodman ML.: Case reports of the Massachusetts General Hospital. Pain and hearing loss with an aural polyp in a young man. N Engl J Mcd 302:456-60, Feb 21, 1980.

DELGUTTE Bertrand.: Representation of speech-like sounds in the discharge patterns of auditory-nerve fibers. J Acoust Soc Am 68:843-57, Sep 1980.

Doyle Mary Ellen (See MONTGOMERY WW).

Eavey Ronald D (See WILSON WR).

EDDINGTON Donald K.: Speech discrimination in deaf subjects with cochlear implants. J Acoust Soc Am 68:885-91, Sep 1980.

FABIAN Richard L, Miller D.: Salivary tumors; thyroglossal duct cysts; congenital branchial cysts and fistulas. Curr Pediatr Ther, Mar 1980.

FABIAN Richard L.: Advances in reconstruction after ablative head and neck surgery. Otolaryngol Clin North Am 13:533-9, Aug 1980.

FRIED Marvin P.: Controversies in the management of supraglottis and croup. Pediatr Clin North Am 26:931-42, 1979.

Fried Marvin P, STRONG MS.: Endoscopic management of laryngeal stenosis. Otolaryngol Clin North Am 12:797-805, Aug 1979.

FRIED Marvin P.: Inflammatory diseases of the airway. Infect Dis Pract 3:1-6, 1980.

Fried Marvin P, SHAPSHAY SM, Hong WK et al.: Simultaneous carcinomas of the esophagus and upper aerodigestive tract. Otolaryngology 88:373-7, Jul-Aug 1980.

FRIED Marvin P.: Repair of nasal fistula secondary to radiation therapy for Eales's disease. Head Neck Surg 2:509-12, Jul-Aug 1980.

Glinski Edward J (See SHUGAR MA).

Goodman Max L, MURPHY GF, Pilch BZ, Dickersin GR.: Carcinoid tumor of the middle ear. Am J Clin Pathol 73:816-23, 1980.

Goodman Max L. (See CHASIN WD, MOMOSE KJ, MONTGOMERY WW).

HAUSLER Rudolf, Levine RA.: Brain stem auditory evoked potentials are related to interaural time discrimination in patients with multiple sclerosis. Brain Res 191: 589-94, 1980. HOLTON Thomas.: Relations between frequency selectivity and two-tone rate suppression in lizard cochlear nerve fibers. Hear Res 2:21-38, 1980.

JOHNSON Don H.: The relationship between spike rate and synchrony in responses of auditorynerve fibers to single tones. J Acoust Soc Am 68:1115-22, Oct 1980.

Jones Diane D (See KIMURA RS). KELLY James H.: Ototoxicity of aminoglycoside antibiotics. Pharm Therapeut Rev. Peter Bent Brigham Hosp 4: Jan 1980.

Kelly James H (See SHUGAR MA).

KIANG Nelson Y-S.: Processing of speech by the auditory nervous system. J Acoust Soc Am 68:830-5, Sep 1980.

KIMURA Robert S.: Effect of opening the endolymphatic duct in hydropic guinea pig ears. Arch Otorhinolaryngol 225:229-41, 1979.

KIMURA Robert S, Ota CY, Takahashi T.: Nerve fiber synapses on spiral ganglion cells in the human cochlea. Ann Otol Rhinol Laryngol 88 (Suppl 62):1-17, Nov-Dec 1979.

KIMURA Robert S, Schuknecht HF, Ota CY, Jones DD.: Obliteration of the ductus reuniens. Acta Otolaryngol 89:295-309, Mar-Apr 1980.

Kimura Robert S (Sec OTA CY). LEVINE Robert A.: Monitoring auditory-evoked potentials during acoustic neuroma surgery. Chapter in: Neurological surgery of the ear, vol. 2 / edited by Herbert Silverstein and Horace Norell.— Birmingham. Aesculapius, 1980. pp. 287-93.

Levine Robert A (See HAUSLER R).

LIBERMAN M Charles.: Morphological differences among radial afferent fibers in the cat cochlea: an electron-microscopic study of serial sections. Hear Res 3:45-63, 1980.

LIBERMAN M Charles.: Efferent synapses in the inner hair cell area of the cat cochlea: an electronmicroscopic study of serial sections. Hear Res 3:189-204, 1980.

Ling Alexander Jr (See PEAKE WT).

MILLER Daniel.: Obituary: Moses H. Lurie, 1893-1979. Harv Med Alum Bull 54:64, Feb 1980.

MILLER Daniel.: The etiology of nasopharyngeal cancer and its management. Otolaryngol Clin North Am 13:467-75, Aug 1980.

Miller Daniel (See FABIAN RL). MONTGOMERY William W.: Management of glottic stenosis. Otolaryngol Clin North Am 12:841-7, Nov 1979.

MONTGOMERY William W, Goodman ML.: Rheumatoid cricoarytenoid arthritis complicated by upper esophageal ulcerations. Ann Otol Rhinol Laryngol 89:6-8, Jan-Feb 1980.

^{*}First Author in Capitals

MONTGOMERY William W.: Manual for care of the Montgomery silicone tracheal t-tube. Ann Otol Rhinol Laryngol 89 (Suppl 73), Jul-Aug 1980.

MONTGOMERY William W, Turner PA.: Benign lesions of the petrous apex. Chapter 30 in: Neurological surgery of the ear, vol. II / edited by Herbert Silverstein and Horace Norell.—Birmingham. Aesculapius, 1979. pp. 218-23. MONTGOMERY William W,

MONTGOMERY William W, Doyle ME.: Acoustic neurinoma surgery. Chapter 39 in: Neurological surgery of the ear, vol. II / edited by Herbert Silverstein and Horace Norell.—Birmingham. Aesculapius, 1979. pp. 278-82.

MONTGOMERY William W, Reardon EJ.: Early vessel ligations for control of severe epistaxis. In: Chapter 14, Control of epistaxis. ln: Controversy in otolaryngology / edited by James B. Snow. — Philadelphia. W.B. Saunders, 1980. pp. 281-91.

Morest D Kent, CANT NB.: Organization of the neurons in the anterior division of the arteroventral cochlear nucleus of the cat. Light microscopic observations. The bushy cells in the arteroventral cochlear nucleus of the cat. A study with the electron microscope. Neuroscience 4:1909-23, 1925-45, 1979.

NADOL Joseph B Jr.: Electron microscopic findings in presbycusic degeneration of the basal turn of the human cochlea. Otolaryngology 87:818-36, Nov-Dec 1979.

NADOL Joseph B Jr.: Extracranial technique for temporal bone removal. Ann Otol Rhinol Laryngol 89:251-2, May-Jun 1980.

NADOL Joseph B Jr, Wilson WR.: Treatment of sudden hearing loss is illogical. In Chapter 1: Treatment for sudden deafness. In: *Controversy in otolaryngology* / edited by James B. Snow.—Philadelphia. W.B. Saunders, 1980. pp. 23-32.

Nadol Joseph B Jr (See Goodman ML).

OTA Carol Y, Kimura RS.: Ultrastructural study of the human spiral ganglion. Acta Otolaryngol 89: 53-62, Jan-Feb 1980.

Ota Carol Y (See KIMURA RS). PEAKE William T, Ling Alexander, Jr.: Basilar-membrane motion in the alligator lizard: its relation to tonotopic organization and frequency selectivity. J Acoust Soc Am 67:1736-45, May 1980.

PENDER Daniel J, Pender VB.:
Otolaryngologica prevarica:
Munchausen's syndrome update and report of a case. Laryngoscope

90:657-60, Apr 1980. Pilch Ben Zion (See Goodman ML). Reardon Edward J (See

MONTGOMERY WW). Richter Ernst (Sce SCHUKNECHT HF).

RIZVI Syed S, Gibbin KP.: Effect of transverse temporal bone fracture on the fluid compartment of the inner ear. Ann Otol Rhinol Laryngol 88:741-8, Nov-Dcc 1979.

SCHUKNECHT Harold F.: The Siamese twins, Eng and Chang. Their lives and their hearing losses. Arch Otolaryngol 105:737-40, Dec 1979.

SCHUKNECHT Harold F.: Mondini dysplasia, a clinical and pathological study. Ann Otol Rhinol Laryngol 89 (Suppl 65), Jan-Feb 1980.

SCHUKNECHT Harold F, Richter E.: Apical lesions of the cochlea in idiopathic endolymphatic hydrops and other disorders: pathophysiological implications. ORL 42:46-76, 1980.

SCHUKNECHT Harold F, Papaspyrou S.: Histiocytosis X. Otolaryngology 88:544-7, Sep-Oct 1980.

SCHUKNECHT Harold F.: Dysmorphogenesis of the inner ear. Birth Defects 16:47-71, 1980.

SCHUKNECHT Harold E: The surgical management of hearing impairment. Chapter 6 in: *Hearing and hearing impairment* / edited by Larry J. Bradford and William G. Hardy.—New York. Grune and Stratton, 1979. pp. 67-74.

SCHUKNECHT Harold F, Bentkover SH.: Partial stapedectomy and piston prosthesis. In: Chapter 12: Operative treatment for otosclerosis. In: *Controversy in otolaryngology* / edited by James B. Snow.—Philadelphia. W.B. Saunders, 1980. pp. 281-91.

Schuknecht Harold F (See KIMURA RS, WILSON WR).

SHUGAR Martin A, Kelly JH, Glinski EJ, Strome M.: An unusual foreign body of the tongue masquerading as malignancy. Laryngoscope 90:673-5, Apr 1980.

Smith Richard C (See WEBSTER RC).

Strome Marshall (See SHUGAR MA).

Turner Pamcla A (See MONTGOMERY WW).

WEBSTER Richard C, Davidson TM, Smith RC.: Treatment of scars. Chapter 28 in: Complications in head and neck surgery / edited by John J. Conley.—Philadelphia. W.B. Saunders, 1979. pp.472-96.

Webster Richard C (See BEYER CK).

WILSON William R, Carrol ED, Bentkover SH, Schuknecht HF.: Grand rounds. Inverted papilloma. Arch Otolaryngol 106:54-61, Jan 1980.

WILSON William R, Eavey RD, Lang DW.: Recurrent parototis during childhood. Clin Pediatr 19:235-6, Mar 1980.

Wilson William R (See NADOL IB Ir).

Department of Ophthalmology Surgical and Research Staffs

*ABELSON Mark B, Yamamoto GK, Allansmith MR.: Effects of ocular decongestants. Arch Ophthalmol 98:856-8, May 1980.

ABELSON Mark B, Baird RS, Allansmith MR.: Tear histamine levels in vernal conjunctivitis and other ocular inflammations. Ophthalmology 87:812-4, Aug 1980.

ABELSON Mark B, Allansmith MR, Friedlander MH.: Effects of topically applied ocular decongestant and antihistamine. Am J Ophthalmol 90:254-7, Aug 1980.

Abelson Mark B, GILLETTE TE, Udell IJ.: Hydrogel keratophakia. Chapter 13 in: *Keratorefraction* / edited by R.A. Schachar et al.—

Dennison, Texas, 1980. pp. 127-34. Aiello Lloyd M (See GHARTEY KN).

ALBERT Daniel M, Lesser RM, Cykiert RC, Zakov ZN.: Orbitofacial mucomycosis with unusual pathological features. Br J Ophthalmol 63:699-703, Oct 1979.

Albert Daniel M, WALKER JP, Weiter JJ et al.: Uveal malignant melanoma in three generations of the same family. Am J Ophthalmol 88:723-6, Oct 1979.

ALBERT Daniel M.: Thesis: The association of viruses with uveal melanoma. Trans Am Ophthalmol Soc 77:367-421, 1979.

ALBERT Daniel M, Percy DH, Puliafito CA, Pavan-Langston D et al.: AlU: An antiherpetic drug with low neonatal toxicity in mice. Adv Ophthalmol 38:89-98, 1979.

ALBERT Daniel M, Puliafito CA, Fulton AB, Robinson NL, Zakov ZN, Dryja TP et al.: Increased incidence of choroidal malignant melanoma occurring in a single population of chemical workers. Am J Ophthalmol 89:323-37, Mar 1980.

Albert Daniel M, CAMPBELL R, Lass J, Pavan-Langston D et al.: Collagenase levels in a new model of experimental herpetic interstitial keratitis. Arch Ophthalmol 98:919-23, May 1980.

ALBERT Daniel M, Wagoner MD, Moazed K, Kimball GP, Gonder J.: Heterotransplantation of human choroidal melanoma into the athymic "nude" mouse. Invest Ophthalmol Vis Sci 19:555-9, May 1980.

Albert Daniel M, LESSELL S, Craft JL.: Kainic acid induces mitoses in mature retinal neurons in rats. Exp Eye Res 30:731-8, Jun 1980.

ALBERT Daniel M, Weichselbaum RR.: Advances regarding the pathogenesis and treatment of ocular tumors. Internat Ophthalmol Clin 20: Sum 1980.

ALBERT Daniel M, Robinson NL, Fulton AB, Zakov ZN, Dryja TP, Puliafito CA, Smith AB, Eagan EA.: Epidemiological investigation of increased incidence of choroidal melanoma in a single population of chemical workers. Internat Ophthalmol Clin 20:71-92, Sum 1980.

ALBERT Daniel M, Shadduck JA, Liu H-S, Sunderman FW, Wagoner MD, Dohlman HG, Papale JJ.: Animal models for the study of uvcal melanoma. Internat Ophthalmol Clin 20:143-60, Sum 1980. Albert Daniel M, NOVE J ct al.: In vitro studies of fibroblasts from patients with retinoblastoma. Internat Ophthalmol Clin 20:143-60, Sum 1980.

Albert Daniel M, WEICHSEL-BAUM RR, Cassady JR, Gonder JR.: Multimodality management of orbital rhabdomyosarcoma. Internat Ophthalmol Clin 20:247-59, Sum 1980.

Albert Daniel M, PARK NH, Pavan-Langston D et al.: Topical therapeutic efficacy of 9-(2-Hydroxyethoxymethyl) guanine and 5-Iodo-5'-amino -2, 5' dideoxyuridine on oral HSV-2 infection in mice. J Infect Dis 141:575-9, 1980.

Albert Daniel M (See BLAIR NP, DRYJA TP, GONDER JR, GRA-GOUDAS ES, LIU HS, LUBIN JR, MOAZED K, PULIAFITO CA, STOWE GC, WAGONER MD, YAMAMOTO GK, ZAKOV ZN).

Anderson P John, CHOI HS.: Diagnostic cytology of cerebrospinal fluid by the cytocentrifuge method. Am J Clin Pathol 72:931-43, Dec 1979.

ANDERSON P John, Wang J, Epstein DL.: Metabolism of calf trabecular (reticular) meshwork. Invest Ophthalmol Vis Sci 19:13-20, Jan 1980.

Anderson P John (See EPSTEIN DL).

BAJART Ann M, Robb RM.: Internal ophthalmolplegia following inferior oblique myectomy: a report of three cases. Ophthalmology 86:1401-6, Aug 1979.

Belcher C Davis III (See SIM-MONS RI).

BELLOWS A Robert.: Cyclocryotherapy: its role in the treatment of glaucoma. Perspect Ophthalmol 4:139-46, 1980.

Bellows A Robert, TAPPER D, Langer R, Folkman J.: Angiogenesis capacity as a diagnostic marker for human eye tumors. Surgery 86:36-40, 1979.

BERSON Eliot L, Watson G.: Electroretinograms in English setters with neuronal ceroid lipofuscinosis. Invest Ophthalmol Vis Sci 19:78-90, Jan 1980.

BERSON Eliot L, Rosner B, Siminoff EA.: Risk factors for genetic typing and detection in retinitis pigmentosa. Am J Ophthalmol 89:63-75, Jun 1980.

Berson Eliot L (See SANDBERG

BERSON Frank G, Epstein DL, Grant WM, Hutchinson BT, Dobbs PC.: Acetazolamide dosage forms in the treatment of glaucoma. Arch Ophthalmol 98:1051-4, Jun 1980.

BERSON Frank G, Epstein DL.: Carbonic anhydrase inhibitors. Perspect Ophthalmol 4:91-5, 1980.

BEYER Charles K, McCarthy R, Webster RC.: Newer concepts in blepharoplasty procedures. Ophthalmic Surg 11:169-74, Feb 1980.

^{*}First Author in Capitals

Bienfang Don C, LIPSON SJ, Naheedy MH, Kaplan MM.: Spinal stenosis caused by epidural lipomatosis in Cushing's syndrome. N Engl J Med 302:36, Jan 3, 1980.

Bienfang Don C, BLUMBERT S, Kantrowitz FG.: A possible association between influenza vaccination and small vessel vasculitis. Arch Intern Med 140:847-8, 1980.

BIENFANG Don C.: Carotid artery flow testing. Chapter 23 in: Neuro-ophthalmology, a series of critical surveys of the international literature, vol. I, 1980 / edited by S. Lessell and J.T.W. Van Dalen.—Exerpta Medica. Amsterdam, 1980. pp. 328-39.

BLAIR Norman P, Albert DM, Liberfarb RM, Hirose T.: Hereditary progressive arthro-ophthalmopathy of Stickler. Am J Ophthalmol 88:876-88, Nov 1979.

BOGER William P III.: Timolol: short term "escape" and long term "drift." Ann Ophthalmol 11:1239-42, Oct 1979.

BOGER William P III, Petersen RA.: Pediatric ophthalmology. Chapter 10 in: *Manual of ocular diagnosis and therapy* / edited by Deborah Pavan-Langston.—Boston. Little, Brown, 1980. pp. 223-68.

BORUCHOFF S Arthur, Kenyon KR, Foulks GN, Green WR.: Epithelial cyst of the iris following penetrating keratoplasty. Br J Ophthalmol 64:440-5, Jun 1980.

Boruchoff S Arthur (See DON-SHIK P).

Brockhurst Robert J, GALINOS S, Smith TR.: Angioma-like lesion in hemoglobin sickle cell disease. Ann Ophthalmol 11:1549-52, Oct 1979.

BROCKHURST Robert J.: Intraocular lenses and retinal detachment. Ophthalmic Times 14-27, Oct 1979.

BROCKHURST Robert J.: Tantalum buttons for localization of malignant melanoma in proton beam therapy. Ophthalmic Surg 11:352, May 1980.

Brockhurst Robert J (See GHAR-TEY KN, HIROSE T, WEITER JJ).

BUZNEY Sheldon M, Massicotte SJ.: Retinal vessels: proliferation of endothelium in vitro. Invest Ophthalmol Vis Sci 18:1191-5, Nov 1979.

Cavanagh H Dwight (See DON-SHIK P).

CHANG David F, Dallow RL, Walton DS.: Congenital orbital teratoma: report of a case with visual preservation. J Pediatr Ophthalmol Strabismus 17:88-95, Mar-Apr 1980.

Chaudhry Hashmat A, (See DUEKER DD).

Cheng Hong-Ming, PARRISH JA, Chylack LT Jr et al.: Dermatological and ocular examinations in rabbits chronically photosensitized with methoxsalen. J Invest Dermatol 73:256-8, 1979.

CHENG Hong-Ming, Chylack Leo T Jr.: Thiol oxidation in the crystalline lens.l. The rate-limiting role of hexokinase in aging rat and human lenses. Invest Ophthalmol

Vis Sci 19:522-8, May 1980.

Cheng Hong-Ming (See CHY-LACK LT Jr).

CHYLACK Leo T Jr, Henriques HF III, Cheng H-M.: Efficacy of alrestatin, an aldose reductase inhibitor, in human diabetic and nondiabetic lenses. Ophthalmology 86:1579-85, Sep 1979.

CHYLACK Leo T Jr, Henriques HF Ill, Tung WH.: Inhibition of sorbitol production in human lenses by an aldose reductase inhibitor. Doc Ophthalmol Proc Series 18:65, 1979.

Chylack Leo T Jr, KADOR PF, Tung WH et al.: Differences in the susceptibility of various aldose reductases to inhibition. Invest Ophthalmol Vis Sci 19:980-2, Aug 1980.

Chylack Leo T Jr, CHIOU SH.: Role of nonenzymatic glycosylation in experimental cataract formation. Biochem Biophys Res Comm 95:894, 1980.

Chylack Leo T Jr., GLASS D et al.: Early onset pauciarticular juvenile rheumatoid arthritis (JRA) associated with HLA Drw5, iritis and antinuclear antibody. J Clin Invest 66:426, 1980.

CHYLACK Leo T Jr.: The crystalline lens and cataract. Chapter 6 in: Manual of ocular diagnosis and therapy / edited by Deborah Pavan-Langston.—Boston. Little, Brown, 1980. pp. 119-32.

Chylack Leo T Jr (See CHENG

Cogan David G, CHU FC, Kuawabara T et al.: Ocular manifestations of familial high-density lipoprotein deficiency (Tangier disease). Arch Ophthalmol 97:1926-8, Oct 1979.

COGAN David G, Schulman J, Porter RJ, Mudd SH.: Epileptiform ocular movements with methylmalonic aciduria and homocystinuria. Am J Ophthalmol 90:251-3, Aug 1980.

COGAN David G.: Radiation effects on the eye and adnexa. ln: *Tumors of the eye or orbit /* edited by C.H. Chang et al.—New York. Masson, 1980.

COGAN David G.: Retinal vascular accidents. Chapter 13 in: *The eye and systemic disease* / edited by Frederick A. Mausolf.—2nd ed.—St. Louis. Mosby, 1980. pp. 276-86.

COGAN David G, Chu FC, Reingold D.: Notes on congenital ocular motor apraxia: associated abnormalities. Chapter 14 in: *Neuro-ophthalmology, vol. X /* edited by Joel S. Glaser.—St. Louis. Mosby, 1980. pp. 171-9.

Constable Ian J (See GRAGOU-DAS ES).

Craft Joseph L (See Albert DM, STOWE GC).

Dallow Richard L, COLEMAN DJ, Smith ME.: Immersion ultrasonography: simultaneous A-scan and B-scan. Internat Ophthalmol Clin 19:67-102, Win 1979.

Dallow Richard L, COLEMAN DJ, Smith ME.: A combined system of contact A-scan and B-scan. Internat Ophthalmol Clin I9:211-24, Win I979.

DALLOW Richard L.: Equipment selection for clinical ophthalmic ultrasonography. Internat Ophthalmol Clin 19:287-30I, Win 1979.

Dallow Richard L, DAVIS KR, Hesselink JR, Grove AS.: CT and ultrasound in the diagnosis of cavernous hemangioma and lymphangioma of the orbit. Comput Tomogr 4:98-I04, I980.

Dallow Richard L (See CHANG

Deppermann Stephen R (See SIM-MONS RJ).

Dobbs Paula C (See BERSON FG). Dohlman Claes H (See DONSHIK P, MOBILIA EF).

Dohlman Henrik G (See ALBERT DM).

DONALDSON David D, Prescott R, Kennedy S.: Simultaneous stereoscopic fundus camera incorporating a single optical axis. Invest Ophthalmol Vis Sci 19:289-97, Mar 1980.

DONSHIK Peter, Cavanagh HD, Boruchoff SA, Dohlman CH.: Effect of bilateral and unilateral grafts on the incidence of rejections in keratoconus. Am J Ophthalmol 87:823-6, Jun 1979.

DRYJA Thaddeus P, Kimball GP, Albert DM.: Light stimulation of iris tyrosinase in vivo. Invest Ophthalmol Vis Sci 19:559-62, May 1980.

DRYJA Thaddeus P, Zakov ZN, Albert DM.: Adenocarcinoma arising from the epithelium of the iris and ciliary body. Internat Ophthalmol Clin 20:177-90. Aug 1980.

Dryja Thaddeus P (See ALBERT DM).

DUEKER David D, Chaudhry HA, Pihlaja DJ.: A technique for exposing internal surfaces of ocular tissue for SEM. Scan Electr Microsc 323–8, 1979.

DUEKER David D.: Glaucoma editorial: surgical specimens in open angle glaucoma. Ann Ophthalmol 12:1070-2, Sep 1980.

Dueker David D (See SIMMONS RJ).

EDWARDS Ross B, Bakshian S.: Phagocytosis of outer segments by cultured rat pigment epithelium. Reduction by cyclin AMP and phosphodiesterase. Invest Ophthalmol Vis Sci 19:1184-88, Oct 1980.

ELIASON Joseph A, Foster CS.: Insect contamination of a cornea stored in M-K medium. Ophthalmic Surg, Sep 1980.

EL-MOFTY Aly EM, Schepens CL.: An insulated diathermy electrode. Arch Ophthalmol 98:1115-6, Jun 1980.

Epstein David L, WALLACE TR et al.: Decreased libido – a side effect of carbonic anhydrase inhibitor. Ann Ophthalmol 11:1563-66, Oct 1979.

EPSTEIN David L, Hashimoto JM, Anderson PJ, Grant WM.: Experimental perfusions through the anterior and vitreous chambers with possible relationships to malignant glaucoma. Am J Ophthalmol 88:1078-86, Dcc 1979.

Epstein David L, ROTH M.: Exfoliation syndrome. Am J Ophthalmol 89:477-81, Apr I980.

EPSTEIN David L.: Phacolytic glaucoma. In: *Current ocular therapy* / edited by F.T. Fraunfelder and F.H. Roy.—Philadelphia. W.B. Saunders, 1980. pp.463-4.

EPSTEIN David L, Pavan-Langston D.: Glaucoma: Chapter 9 in: Manual of ocular diagnosis and therapy / edited by Deborah Pavan-Langston.—Boston. Little, Brown, 1980. pp. 195-222.

Epstein David L (See ANDERSON PJ, BERSON FG).

FOGLE JA, Kenyon KR, Foster CS.: Tissue adhesive arrests stromal melting in the human cornea. Am J Ophthalmol 89:795-802, Jun 1980.

FOGLE JA, Yoza BK, Neufeld AH.: Diurnal rhythm of mitosis in rabbit corneal epithelium. Albrecht von Graefes Arch Klin Exp Ophthalmol 213:143-8, 1980.

Foster C Stephen, LAMBERTS DW.: Chronic unilateral external ocular inflammation. Surv Ophthalmol 24:157-66, Nov-Dec 1979. FOSTER C Stephen.: Immuno-

FOSTER C Stephen.: Immunosuppressive therapy for external ocular inflammatory disease. Ophthalmology 87:140-9, Feb 1980.

FOSTER C Stephen, Duncan J.: Randomized clinical trial of topically administered cromolyn sodium for vernal keratoconjunctivitis. Am J Ophthalmol 90:175-81, Aug 1980.

FOSTER C Stephen.: Vernal keratoconjunctivitis. Perspect Ophthalmol 35-8, 1980.

Foster C Stephen (See ELIASON J, FOGLE IA).

FREEMAN H MacKenzie.: Fellow eyes of giant retinal breaks. Mod Prob Ophthalmol 20:267-74, 1979.

FREEMAN H MacKenzie, Dobbie DJ, Friedman MW et al.: Pseudophakic retinal detachment. Mod Probl Ophthalmol 20:345-53, 1979.

Freeman H MacKenzie (See GHARTEY KN, LIU HS, TOLEN-TINO FI).

FRIBERG Thomas R, Grove AS Jr.: Subretinal neovascularization and choroidal folds. Ann Ophthalmol 12:245-50, Mar 1980.

FRICKER Stephen J, Kuperwaser MC.: Use of pseudorandomly timed stimuli and cross correlation techniques for visual evoked response measurements. I.E.E.E. Computers in Ophthalmology Meeting, St. Louis, Missouri, April 1979. Computer Society Catalogue, No. 79 Ch15I7-2c, 1979, pp. 242-9.

GARCIA George E.: Extended wear of CAB contact lenses in aphakic patients. Ophthalmology 86:332-6, Feb 1979.

GARCIA George E.: Refractive errors and clinical optics. Chapter 13 in: *Manual of ocular diagnosis and therapy* / edited by Deborah Pavan-Langston.—Boston. Little, Brown, 1980. pp. 339-56.

GHARTEY Kweku N, Brockhurst RJ.: Photocoagulation of active toxoplasmic retinochoroiditis. Am J Ophthalmol 89:858-64, Jun 1980.

GHARTEY Kweku N, Tolentino Fl, Freeman HM, McMcel JW, Schepens CH, Aicllo LM.: Closed vitreous surgery. XVII. Results and complications of pars plana vitrcctomy. Arch Ophthalmol 98:1248-52, Jul 1980.

Giovanoni Richard (See SINCLAIR SH).

GONDER John R, Wagoner MD, Albert DM.: ldiopathic acquired melanosis. Ophthalmology 87:835-40, Aug 1980.

Gonder John R (Sce ALBERT DM, WAGONER MD).

GRAGOUDAS Evangelos S, Zakov ZN, Albert DM, Constable IJ.: Longterm observations of protonirradiated monkey eyes. Arch Ophthalmol 97:2184-91, Nov 1979.

Gragoudas Evangelos S, SUIT HD et al.: Clinical experience with proton beam radiation therapy. J Can Assoc Radiol 31:35-9, Mar 1980.

GRAGOUDAS Evangelos S, Goiten M et al.: Proton beam irradiation, an alternative to enucleation for intraocular melanomas. Ophthalmology 87:571-81, Jun 1980.

GRAGOUDAS Evangelos S.: The Bragg peak of proton beams for treatment of uveal melanoma. Internat Ophthalmol Clin 20:123-33, Sum 1980.

GRAGOUDAS Evangelos S, Goiten M, Koehler A et al.: Use of proton beams for treatment of choroidal melanomas. In: *Proceedings* of the First International Seminar on the Uses of Proton Beams in Radiation Therapy, Moscow, December 6-11, 1977/1979. pp. 63-76.

Gragoudas Evangelos S, SÜIT HD, Tepper J et al.: Curative radiation therapy employing proton beam techniques. In: Proceedings of the First International Seminar on the Uses of Proton Beams in Radiation Therapy, Moscow, December 6-11, 1977/1979. pp. 77-88.

Gragoudas Evangelos S (See LUBIN JR, PITTA CG, SINCLAIR SH).

GRANEK Harold, Baden HP: Corneal involvement in epidermolysis bulbosa simplex. Arch Ophthalmol 98:469-72, Mar 1980.

GRANT W Morton, Walton DS.: Aniridia. Section 26 in: *Current* ocular therapy / cdited by F.T. Fraunfelder and F.H. Roy.—Philadelphia. W.B. Saunders, 1980. pp. 471-3.

GRANT W Morton.: The peripheral visual system as a target. Chapter 6 in: Experimental and clinical neurotoxicology / edited by P.S. Spencer and H.H. Schaumburg.—Baltimore. Williams and Wilkins, 1980

Grant W Morton (See BERSON FG, EPSTEIN DL, WAND M).

Greiner Jack V, FOWLER SA, Allansmith MR.: Soft contact lenses from patients with giant papillary conjunctivitis. Am J Ophthalmol 88:1056-61, Dec 1979.

Greiner Jack V, GILLETTE TE, et al.: Histologic and immunohistologic comparison of main and accessory lacrimal tissue. Am J Ophthalmol 89:724-30, May 1980.

GREINER Jack V, Gladstone L, Covington HI et al.: Branching of microvilli in the human conjunctival epithelium. Arch Ophthalmol 98:1253-5, Jul 1980.

Greiner Jack V, Allansmith MR, KORB DR et al.: Prevalence of conjunctival changes in wearers of hard contact lenses. Am J Ophthalmol 90:336-41, Sep 1980.

GROVE Arthur S Jr.: Giant dermoid cysts of the orbit. Ophthalmology 86:1513-20, Aug 1979.

GROVE Arthur S Jr.: Orbital trauma evaluation by computed tomography. Comput Tomogr 3:267-78, 1979

GROVE Arthur S Jr.: Orbital trauma and computed tomography. Ophthalmology 87:403-11, May 1980.

GROVE Arthur S Jr.: Melanomas of the conjunctiva. Internat Ophthalmol Clin 20:161-75, Sum 1980.

GROVE Arthur S Jr.: Levator lengthening by marginal myotomy. Arch Ophthalmol 98:1433-8, Aug 1980.

GROVE Arthur S Jr.: Eyclids and lacrimal system. Orbital disorders. Chapters 3 and 4 in: *Manual of ocular diagnosis and therapy* / edited by Deborah Pavan-Langston.—Boston. Little, Brown, 1980. pp. 47-56, 57-68.

Grove Arthur S Jr (See Dallow RL, FRIBERG TR, LUBIN JR).

Harris Philip J (See PITTA CG). Hashimoto Joann M (See EPSTEIN DL).

Henriques Horace F lll (See CHYLACK LT Jr.).

Hirose Tatsuo, HIDENAO T, Schepens CL.: Retinal detachment following congenital cataract surgery. 1. Preoperative findings in 114 eyes. Arch Ophthalmol 98:669-75, Apr 1980.

HIROSE Tatsuo, Schepens CL, Brockhurst RJ, Wolf E, Tolentino Fl.: Congenital retinoschisis with night blindness in two girls. Ann Ophthalmol 12:848-56, Jul 1980.

Hirose Tatsuo (See BLAIR NP). Hutchinson B Thomas (See BERSON FG).

Jacobson Samuel G (See SANDBERG MA).

JOHNSON Carl Cordes.: Epicanthus and epiblepharon. 1980 Yearbook of Plastic Surgery. pp. 252-54.

Kennedy Stephon (See DONALDSON DD).

KENYON Kenneth R, Green WR.: Inborn lysosomal diseases. In: *Electron microscopy in human medicine*, vol. 6 / edited by J. Johannessen.—New York, McGraw Hill, 1979. pp. 276-83.

Kenyon Kenneth R, PARELHOFF ES et al.: Radial perivascular lattice degeneration of the retina. Ann Ophthalmol 12:25-32, Jan 1980. Kenyon Kenneth R, CONN H, Berman M et al.: Stromal vascularization prevents corneal ulceration. Invest Ophthalmol Vis Sci 19:362-70, Apr 1980.

KENYON Kenneth R.: Lysosomal disorders affecting the ocular anterior segment. Chapter 1 in: *Ocular pathology update /* edited by Don H. Nicholson.—New York. Masson, 1980. pp. I-22.

KENYON Kenneth R.: Histological changes in Bowman's membrane associated with thermokeratoplasty. In: *Keratorefraction* / edited by R.A. Schachar et al.—Texas. LAL Publishing Co., 1980. pp. 51-7.

KENYON Kenneth R.: Congenital hereditary endothelial dystrophy. In: *Current ocular therapy* / edited by F.T. Fraunfelder and F.H. Roy.—Philadelphia. W.B. Saunders, 1980. pp. 369-70.

Kenyon Kenneth R (See BORUCHOFF SA, FOGLE JA).

Kimball Glenn P (See DRYJA TP, ALBERT DM).

Kimbrough Richard L (See SIMMONS RJ).

Kini Mohandas M, LEIBOWITZ HM et al.: The Framingham eye study monograph: an ophthalmological and epidemiological study of cataract, glaucoma, diabetic retinopathy, macular degeneration and visual acuity in a general population of 2631 adults, 1973-1975. Surv Ophthalmol 24: Suppl: 335-610, May-Jun 1980.

Kini Mohandas M, KLEIN M et al.: Follow-up study of detachment of the retinal pigment epithelium. Br J Ophthalmol 64:412-6, Jun 1980.

KINI Mohandas M.: Retina and vitreous. Chapter 7 in: *Manual of ocular diagnosis and therapy /* edited by Deborah Pavan-Langston. —Boston. Little, Brown, 1980. pp. 133-56.

KRAUT Joel A.: Low vision devices useful in macular abnormalities. Ophthalmol Times 45, 1980.

Kuperwaser Mark C (See FRICKER SI).

LASS Jonathan H, Campbell RC, Pavan-Langston D et al.: Treatment of experimental herpetic interstitial keratitis with medroxyprogesterone. Arch Ophthalmol 98:520-7, Mar 1980.

Lass Jonathan H (See Albert DM). LUBIN Jane R, Albert DM.: Sympathctic ophthalmia. Ample room for controversy. Surv Ophthalmol 24:137-40, Nov-Dec 1979.

LUBIN Jane R, Grove AS Jr, Zakov ZN, Albert DM.: Hepatoma metastatic to the orbit. Am J Ophthalmol 89:268-73, Feb 1980.

LUBIN Jane R, Albert DM, Weinstein M.: Sixty-five years of sympathetic ophthalmia. A clinicopathologic review of 105 cases (1913-1978). Ophthalmology 87:109-21, Feb 1980.

LUBIN Janc R, Gragoudas ES, Albert DM, Weichselbaum RR.: Bilateral malignant choroidal melanomas. Internat Ophthalmol Clin 20:103-15, Sum 1980. LlU Hsiao S, Tolentino FI, Freeman HM.: Vitreous surgery an update. Chin J Ophthalmol 16:260-2, Feb 1980.

Liu Hsiao S (See ALBERT DM, TOLENTINO FI).

McCarthy Rodney (See BEYER CK).

McMeel J Wallace (See GHARTEY KN).

MAINSTER Martin A, Dieckert JP.: A simple haploscopic device for quantitating color brightness comparison. Am J Ophthalmol 89:58-61, Jan 1980.

MAINSTER Martin A, Sewell JJ.: Small computers in the private ophthalmic practice. Practical considerations. Surv Ophthalmol 24:315-21, Mar-Apr 1980.

Mainster Martin A, Schepens CL, TIMBERLAKE GT.: Automated clinical visual acuity testing. Am J Ophthalmol 90:369-73, Sep 1980.

Mainster Martin A, DELORI FC, Pomerantzeff O.: Light levels in ophthalmic diagnostic instruments. Proc Soc Photo-oph Inst Eng 229:154-60, 1980.

MILLER David, Mayman C, Tijerina M.: In vitro formation of steroid cataract in bovine lens. Part I. Optical measurement. Part II. Measurement of Na-K ATPase. Acta Ophthalmol 57:1101-6, 1107-15, Dec 1979.

MILLER David, Stegmann R.: Use of Na-hyaluronate in auto-corneal transplantation in rabbits. Ophthalmic Surg 11:19-21, Jan 1980.

MILLER David, Stegmann R.: Use of Na-hyaluronate in anterior segment eye surgery. Am Intra-ocul Implant Soc J 6:13-15, Jan 1980.

MILLER David, Plaus W, Zelt R.: Clinical tear analysis using laser diffraction. Acta Ophthalmol 58:588-97, Aug 1980.

MOAZED Kambiz, Albert DM, Smith TR.: Clinical pathological review: Rubeosis iridis in "pseudogliomas." Surv Ophthalmol 25:85-90, Sep-Oct 1980.

Moazed Kambiz (See ALBERT DM).

MOBILIA Eleanor F, Yamamoto GK, Dohlman CH.: Corneal wrinkling inducted by ultra-thin soft contact lenses. Ann Ophthalmol 12:371-5, Apr 1980.

Papale John J (See ALBERT DM). PAVAN-LANGSTON Deborah.: Current trends in therapy of ocular herpes simplex: experimental and clinical studies. Adv Ophthalmol 38:82-8, 1979.

PAVAN-LANGSTON Deborah.: Varicella-zoster disease of the anterior segment. Contact Intraoc Lens Med J 6:84-95, Jan-Mar 1980.

PAVAN-LANGSTON Deborah.: Herpetisch keratitis. Selecta 29:2275-6, 1980.

Pavan-Langston Deborah, PARK NH, McLean S, Lass JH.: Acyclovir topical therapy of cutaneous herpes simplex virus infection in guinea pigs. Arch Dermatol 116:672-5, 1980.

PAVAN-LANGSTON Deborah.: Ocular antiviral therapy. Internat Ophthalmol Clin 20:149-61. Fall 1980

PAVAN-LANGSTON Deborah.: Ocular herpes simplex—current and future therapeutic trends. In: Ocular therapeutics / edited by D. Srinivason.—New York. Masson, 1980. pp. 5-19.

PAVAN-LANGSTON Deborah.: Manual of ocular diagnosis and therapy / edited by Deborah Pavan-Langston.—Boston. Little, Brown,

1980. 479 p.

PAVAN-LANGSTON Deborah.: Ocular examination techniques and diagnostic tests, Chapter 1; Burns and trauma, Chapter 2; Extraocular muscles, strabismus, and nystagmus, Chapter 11; Appendix A, Formulary and common dosages of topical and systemic ophthalmic drugs. Appendix B, Antibiotic routes and dosages. In: *Manual of ocular diagnosis and therapy* / edited by Deborah Pavan-Langston. —Boston. Little, Brown, 1980. pp. 1-30, 31-46, 269-302, 433-36, 437-42.

Pavan-Langston Deborah.: FOULKS GN.: Cornea and external disease. Chapter 5 in: Manual of ocular diagnosis and therapy / edited by Deborah Pavan-Langston. —Boston. Little, Brown, 1980. pp. 69-118.

Pavan-Langston Deborah (See ALBERT DM, EPSTEIN DL, LASS JH, SCHLAEGEL TF,

YAMAMOTO GK).

Pelham Valerie (See SINCLAIR SH). Perry Henry D (See LIU HS).

Petersen Robert A, DOLINE S et al.: The effect of radiotherapy in the treatment of retinoblastoma upon the developing dentition. J Pediatr Ophthalmol Strabismus 17:109-13, Mar-Apr, 1980.

Petersen Robert A, FULTON AB, Dobson V.: Cycloplegic refractions in infants and young children. Am J Ophthalmol 90:239-47, Aug 1980.

Petersen Robert A (See BOGER WP III).

Pihlaja Donovan J (See DUEKER DD).

PITTA Caesar G, Shingleton BJ, Harris PJ, Regan CDJ.: Solitary choroidal hemangioma. Am J Ophthalmol 88:698-701. Oct 1979.

PITTA Caesar G, Steinert RF, Gragoudas ES, Regan CDJ.: Small unilateral foveal hemorrhages in young adults. Am J Ophthalmol 89:96-102, Jan 1980.

PRUETT Ronald C, Schepens CL, Swann DA.: Hyaluronic acid vitreous substitute; a six-year clinical evaluation. Arch Ophthalmol 97:2325-30, Dec 1979.

PRUETT Ronald C.: Indications for cryotechniques in retinal detachment surgery. The wedge implant, rationale for a new design. In: Proceedings of the 27th Conference of the Madurai State Ophthalmic Association and Southern Regional Conference, Madurai, India, 1979. pp. 1-5, 7-II.

PRUETT Ronald C.: Persistent hyperplastic primary vitrcous. Chapter in: *Current ocular therapy*/edited by F.T. Fraunfelder and F.H. Roy.—Philadelphia. WB. Saunders, 1980. pp. 577-9.

PULIAFITO Carmen A, Wilkes BM, Albert DM.: Direct identification of T cells in malignant melanoma of the choroid. Internat Ophthalmol Clin 20:93-l02, Sum 1980.

Puliafito Carmen A (See ALBERT DM).

Regan Charles DJ (See PITTA CG, SINCLAIR SH).

RICHARDSON Thomas M.: Corneal decomposition in Chandler's Syndrome; a scanning and transmission electron microscopic study. Arch Ophthalmol 97:2112-9, Nov 1979.

RICHARDSON Thomas M.: Do glycosaminoglycans (GAGs) participate in the regulation of aqueous dynamics? Ann Ophthalmol 12:549-50, May 1980.

RICHARDSON Thomas M.: Glaucoma and the exfoliation syndrome. Ann Ophthalmol 12:207-8, Feb 1980.

ROBB Richard M.: Cyclic nucleotide phosphodiesterase activity in normal mice and mice with retinal degeneration. Invest Ophthalmol Vis Sci 18:1097-1100, Oct 1979.

ROBB Richard M.: Ophthalmic considerations in the developmentally disabled child. In: *The practical management of the developmentally disabled child /* edited by A.P. Scheiner and I.F. Abroms. — St. Louis. Mosby, 1980. pp. 269-80.

Robb Richard M (See BAJART AM).

Robinson Nancy L (See ALBERT DM).

SANDBERG Michael A, Jacobson SG, Berson EL.: Foveal cone electroretinograms in retinitis pigmentosa and juvenile macular degeneration. Am J Ophthalmol 88:702-7, Oct 1979.

SANDBERG Michael A.: Hereditary retinitis pigmentosa: recent findings from electroretinography, fundus reflectometry, and psychophysics. Internat Ophthalmol Clin 20:39-52, Spr 1980.

Sang Delia L, KIRSNER K.: Visual persistence and code selection in short-term memory for letters. J Exper Psychol [Hum Percept] 5:260-76, May 1979.

Sang Delia N (See STOWE GC). SCHEPENS Charles L, Cangemi FE.: Closed vitrectomy: the Greishaber instrument. Ophthalmic Surg 10:64-73, Oct 1979.

Schepens Charles L, TAKAHASHI M, Trempe CL.: Biomicroscopic evaluation and photography of posterior vitreous detachment. Arch Ophthalmol 98:665-8, Apr 1980.

Schepens Charles L, TOKOFUKU H, Hirose T.: Retinal detachment following congenital cataract surgery. I. Preoperative findings in 114 eyes. Arch Ophthalmol 98:669-75, Apr 1980.

Schepens Charles L (See EL-MOFTY AEM, GHARTEY KN, HIROSE T, Mainster MA, PRUETT RC, SPENCER R).

SCHLAEGEL Thomas F, Pavan-Langston D.: Uveal tract: iris, ciliary body, and choroid. Chapter 8 in: Manual of ocular diagnosis and therapy / edited by Deborah Pavan-Langston.—Boston. Little, Brown, 1980. pp. 157-94.

SCHMIDT Susan Y.: Biochemical and functional abnormalities in retinas of taurine-deficient cats. Fed Proc 39:2706-8, 1980.

Shingleton Bradford J (See PITTA CG).

Siminoff Emily A (See BERSON EL).

SIMMONS Richard J, Deppermann SR, Dueker DK.: The role of gonio-photocoagulation in neovas-cularization of the anterior chamber angle. Ophthalmology 87:79-82, Jan 1980.

SIMMONS Richard J.: Current problems in malignant glaucoma. Doc Ophthalmol Proc Series 22:195-9, 1980.

SIMMONS Richard J, Kimbrough RL, Belcher CD.: Gonioplasty for selected cases of angle closure glaucoma. Doc Ophthalmol Proc Series 22:200-2, 1980.

SIMMONS Richard J, Deppermann SR, Dueker DK.: Laser prophylaxis of neovascular glaucoma: by gonio-photocoagulation with pan-retinal photocoagulation. Doc Ophthalmol Proc Series 22:203-7, 1980.

Simmons Richard J, CASHWELL LE: Adjunctive techniques to glaucoma filtering surgery. Perspect Ophthalmol 4:115-21, 1980.

SINCLAIR Stephen H, Gragoudas ES.: Prognosis for rubeosis iridis following central retinal vein occlusion. Br J Ophthalmol 63:735-43, Nov 1979.

SINCLAIR Stephen H, Pelham V, Giovanoni R, Regan CDJ.: Mydriatic solution for outpatient indirect ophthalmoscopy. Arch Ophthalmol 98:1572-4, Sep 1980.

Smith Taylor R, GALINOS S, Brockhurst RJ.: Angioma-like lesion in hemoglobin sickle cell disease. Ann Ophthalmol 11:1549-52, Oct 1979.

Smith Taylor R (See MOAZED K, STOWE GC).

SNYDER Charles.: Why leave Harvard to go to Yale? Cushing's odyssey. Chapter 1I in: *Neuro-oph-thalmology, vol. X /* edited by Joel S. Glaser.—St. Louis, Mosby, 1980. pp. 127-38.

SPENCER Rand, Newsome DA, Schepens CL.: Limited superficial debridement to improve corneal clarity during closed vitrectomy. Am J Ophthalmol 89:137-8, Jan 1980.

SPENCER Rand, Tolentino Fl, Doyle G.: Takayasus' arteritis. Ann Ophthalmol 12:935-8, Aug I980. STOWE G Cleveland III, Zakov ZN, Albert DM, Smith TR, Sang DN, Craft JL.: Vascular basophilia in ocular and orbital tumors. Invest Ophthalmol Vis Sci 18:1068-75, Oct 1979.

Stowe G Cleveland III (See YAMAMOTO GK).

Thoft Richard A, FRIEND J, Snip RC et al.: Insulin sensitivity and sorbitol production of the normal rabbit corneal epithelium in vitro. Invest Ophthalmol Vis Sci 19:913-19, Aug 1980.

THOMAS John V.: Glaucoma editorial: Ocular adrenergic receptor sites pertinent to aqueous humor dynamcis. Ann Ophthalmol 12:96-7, Jan 1980.

TOLENTINO Felipe 1, Freeman HM.: General aspects of closed vitrectomy through the pars plana. Acta XXIII Concilium Ophthalmologicum, Kyoto 1978:408-11, 1979.

TOLENTINO Felipe I, Freeman HM.: A new lens for closed pars plana vitrectomy. Arch Ophthalmol 97:2197-8, Nov 1979.

TOLENTINO Felipe I, Liu HS, Freeman HM, Natchiar G.: Vitrectomy in penetrating ocular trauma. An experimental study using rabbits. Ann Ophthalmol 11:763-71, Nov 1979.

Tolentino Felipe I, REFOJO MF, Natchiar G et al.: New hydrophilic implant for scleral buckling. Ann Ophthalmol 12:88-92, Jan 1980.

Tolentino Felipe I (See GHARTEY KN, HIROSE T, LIU HS, SPENCER R, WEITER JJ).

Trempe Clement L (See Schepens CL).

Tung WF (See CHYLACK LT Jr). VINGER Paul F.: Sports related eye injury. A preventable problem. Surv Ophthalmol 25:47-51, Jul-Aug 1980.

VINGER Paul F.: Protecting the fragile eye. Athletic Purchasing and Facilities 4:26-33, Aug 1980.

VINGER Paul F.: Suggestions for sports eye protection. N Engl J Optom 31:67-70, 1980.

VINGER Paul F.: Protective equipment; its values, capabilities and limitations. Athletic Purchasing and Equipment 4:36-40, Sep 1980.

VINGER Paul F.: The prevention of ocular trauma in sports. Chapter in: Ocular trauma / edited by H. MacKenzie Freeman.—New York. Appleton-Century-Crofts, 1979, pp. 369-75.

VINGER Paul E: Prevention of eye and face injuries. In: *Health maintenance through physical condition, continuing education /* Littleton, Mass. PSG Publishers, 1980. pp. 88-102.

WAGONER Michael D, Gonder JR, Albert DM, Canny CL.: Intraocular reticulum cell sarcoma. Ophthalmology 87:724-7, Jul 1980.

Wagoner Michael D (See ALBERT DM, GONDER JR).

WALTON David S.: Thesis: Primary congenital open angle glaucoma: a study of the anterior segment abnormalities. Trans Am Ophthalmol Soc 77:367-421, 1979

WALTON David S.: Anterior segment defects in congenital glaucoma. Trans Am Ophthalmol Soc 77:746-68, 1979.

Walton David S (Sce CHANG DF, GRANT WM).

WAND Martin, Grant WM.: Therapeutic review: thymoxamine hydrochloride: an alpha-adrenergic blocker. Surv Ophthalmol 25:75-84, Sep-Oct 1980.

Wang J (See ANDERSON PJ). Watson Gail (See BERSON EL).

WEITER John J, Tolentino Fl, Brockhurst RJ.: Uveal effusion following pan-retinal photocoagulation. Ann Ophthalmol 11:723-7, Nov 1979

Wolf Ernst (See HIROSE T). Wray Shirley H. TROJANOWSKI JQ.: Vertical gaze ophthalmoplegia: selective paralysis of downgaze. Neurol 30:605-10, 1980.

WRAY Shirley H.: Immunologic aspects of optic neuritis. Chapter 12 in: Neuro-ophthalmology, vol. X / edited by Joel S. Glaser. - St. Louis. Mosby, 1980. pp. 139-155.

WRAY Shirley H.: Neuro-ophthalmology: visual fields, optic nerve, and pupil. Chapter 12 in: Manual of ocular diagnosis and therapy edited by Deborah Pavan-Langston. -Boston. Little, Brown, 1980. pp. 303-38.

YAMAMOTO Gilbert K, Pavan-Langston D, Stowe GC, Albert DM .: Fungal invasion of a therapeutic soft contact lens and cornea. Ann Ophthalmol 11:1731-5, Nov 1979.

YAMAMOTO Gilbert K.: Ocular manifestations of systemic disease. Ocular drug toxicity. Chapters 14 and 15 in: Manual of ocular diagnosis and therapy / edited by Deborah Pavan-Langston. — Boston. Little, Brown, 1980. pp. 357-414, 415-

Yamamoto Gilbert K (See ABELSON MB, MOBILIA EF) ZAKOV Z Nicholas, Cook SA, Albert DM et al.: False-positive phosphorus 32 uptake tests in the diagnosis of ocular mclanoma. Internat Ophthalmol Clin 0:117-21, Sum 1980.

Zakov Z Nicholas (See ALBERT DM, DRYJA TP, GRAGOUDAS ES, LUBIN JR, STOWE GCI.

Employee Service Award Recipients

Dorothy Campanella Dorothy Landers, R.N. Roger Lane Rita Lovely Gerald Maloney

Over 25 Years of Service

Robert MeLaughlin Charlotta Miehalek, N.A. Lloyd Ramsdell Hattie Roberts S. Madeline Shipsey Barbara Smith, R.N. Charles Snyder

Ann Stromberg 25 Years of Service W. Morton Grant, M.D.

William W. Montgomery, M.D. Charles T. Wood

15 Years of Service Ellen Alekel, R.N.

Inez Berry Carol Covan, L.P.N. Ethel Hargrove Diane Jones

Rita Kelly, R.N. Barbara Kiang Harold Noonan MaeLeod Sealey Edna Staut, C.R.N.A. Elizabeth Wade, N.A.

10 Years of Service

Dalia Alvarez Ioanne Brenan Lillian Brokow Paul Cadenhead Riehard Carr, R.N. Peter DaBreo Maria Estrugo Marlyn Flynn, R.N. Ollie Gordon Anita Johnson, N.A. Carmelita Klateh, L.P.N. Suchitra Klinsrisuk Muriel Lacey Hilda Ledoux Mary Litchenberg, R.N. Edith Miller Carol Moy Kenneth Pellegrino

George Penney

Virginia Pierre Donna Pihlaja Aliee Quigley Janiee Regan Ronald Wade Enid White Delores Williams Iean Wilson William York

5 Years of Service Christine Baldwin Joanne Barry, R.N. Christian Black Kathryn Bowse, R.N. Kathleen Buckley, R.N. Margaret Bush, L.P.N. Lisa Conley George Daveo Dianne Demakes Carolyn Dennis Virginia DeRose Earrie Fenderson Pierre Fidelia Ruth Francis, R.N. Evangelos Gragoudas, M.D. Mary Ann Goldberg, R.N. Janiee Groncki, R.N. Mildred Hadley Maleolm Heslop, M.D. Pedro Jones Veroniea Jones Kathy Keating Charlotte Kirshnit Kathleen Knobliek Suzanne McKenzie, R.N. Lorna MacNutt, R.N. Margaret Mahoney, R.N. Mary MeGlynn Efstathios Minasidis K. Jaek Momose, M.D. Pierre Moreau Roslyn Neustadt Donovan Pihlaja, Ph.D. Barbara Sehnider Nancy Shields, R.N. Ann Marie Shill, R.N. Lynne Sutton Riehard Thoft, M.D. Joanne Tierney, R.N. David Walton, M.D. Frances Wong Ho

Volunteers

Over 100 hours Hana Abdel Halim Priscilla Adams Katherine Bakker Donna S. Criseione Margaret Duncan Cathi Fischer Jennifer Meleher Aliee Miehelson Bette Molloy Laraine Paradis Elizabeth Ray June Robinson Jesse Rogers Charles Snelling Charles Sullivan Christina Toulouse Honor Roll **Emily Allen** Merle Barry Dorothy Bowman Emma Buekley Evelyn Cunningham Winifred Cunningham Jaequeline A. Daly Barbara J. Dawson Geraldine J. DiLorenzo Wendy Ecker Helen Foster Suzanne Frederick Penelope Ghartey Mary A. Higgins Marjorie Kent Helen King Florenee Knight Marydell Lipseomb Stephanie Lombardo

Eleanor Lowell Marjorie Lyman Arline Margulies Helen MeEvoy Ellen Meisel Phyllis Meisel Donna J. Montgomery Patricia Okamura Enid Fay Phillips Florence Reid Ethel Rosenthal Anne Sehukneeht Ruth Shapiro Marvin Siegel Aliee Silverman Jean Smith Mildred F. Sullivan Priseilla Summers Gertrude vonPirquet



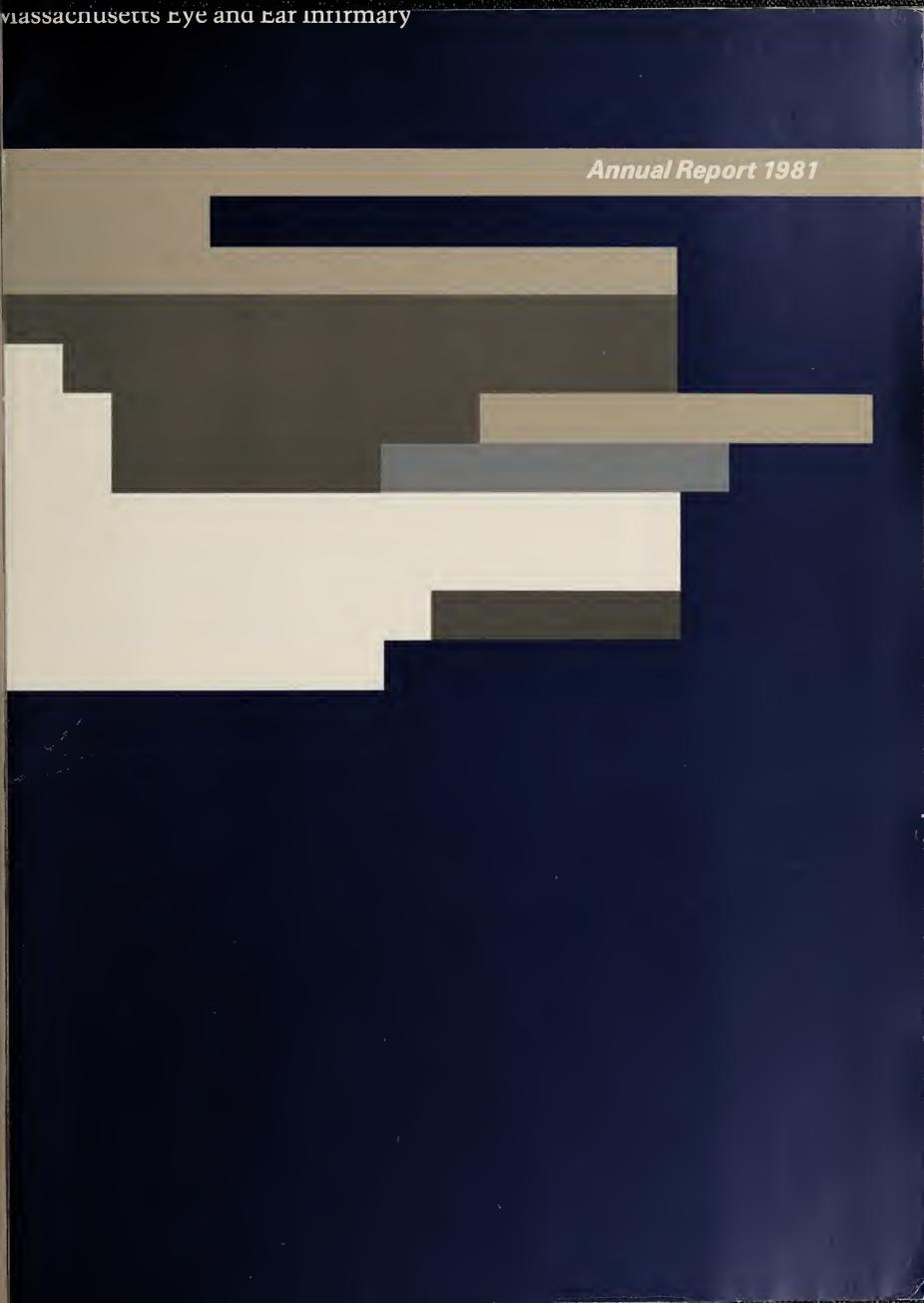
Executive Editor:
Anne M. Gilmer, Assistant Director for Public Affairs and Development Editor: Ellen Barlow
Editorial Assistant:
Marie McPartland-Conn
Designer: Joseph Moore, Logowitz
+ Moore Design Associates
Photography: Chris Maynard

Devclopment and Public Affairs Office Massachusetts Eye and Ear Infirmary 243 Charles Street Boston, Massachusetts 02114 523-7900, extension 622

Form of Bequest

I give dollars to the Massachusetts
Eye and Ear Infirmary, a charitable organization organized
under the laws of Massachusetts, and situated at Boston,
Massachusetts, for such purposes which will benefit the
Infirmary as directed by the
Infirmary's Board of Managers.

Massachusetts Eye and Ear Infirmary 243 Charles Street Boston, Massachusetts 02114



For a taped version of this report, please call the Massachusetts Eye and Ear Infirmary Public Affairs Office, 523-7900, extension 565.

Chairman and the President

Fourteen years ago the Massachusetts Eye and Ear Infirmary initiated a program to replace and renovate its physical plant. At that time, the Board of Managers approved a Master Plan that prescribed phased construction and financing of a building program that would increase the Infirmary's total area from 110,000 to 413,000 square feet.

The first phase began in 1968 with the construction of the first half of the tower and a fund-raising drive for \$6 million. Work on the second half of the tower proceeded in 1974, with a concurrent drive for \$4 million. To complete clinical units, research laboratories and administrative support areas, the Board of Managers in 1980 approved continuation of Phase II.

A steering committee was formed to help raise the funds necessary to complete Phase I. Total cost of the construction is approximately \$9.5 million. Of that, \$2.5 million will be financed through a mortgage, leaving a fund-raising goal of \$7 million.

Vappi & Company, Inc., the contractor for the previous two segments of the building program, was awarded the general contract for construction of the continuation of Phase II in May and work commenced in August, 1981. It is expected that the current building projects will be completed in June of 1983.

Many of us have seen the process through from the eginning in 1968. Others have joined the Corporation along the way. For all of us, this phase of the building rogram will be the fruition of a plan to replace and renew the Infirmary's physical plant from the ground up while remaining in the same location we have occupied since 1899.

Other issues addressed by the Board of Managers during the past year reflect the changes resulting from the building program. They reflect as well the need to continually monitor and plan in anticipation of the changing demands placed upon our health care systems.

One example of the results of careful planning and monitoring was the Public

Health Council's approval on June 23 of the Infirmary's Determination of Need application to purchase a CT Scanner. The scanner has been ordered, and delivery is expected in late spring of 1982. Construction of the CT Scanner Suite has been incorporated into the building program.



In compliance with the Joint Commission on Accreditation of Hospitals and by the suggestion of the Medical Staff, the Medical Staff Bylaws have been revised, reviewed and approved by the Board of Managers.

The Executive Committee of the Board of Managers continues to serve as a forum which brings together representatives of the Trustees, Medical Staff and Management to discuss problems of mutual concern regarding the operations of the Infirmary and to work collectively toward their solution.

Maintenance of an appropriate balance among patient care, teaching and research at the Infirmary has been addressed on several fronts. The Ophthalmic Residency Program was reviewed by the Executive Committee of the Board of Managers and analyzed by a subcommittee of the Board of Surgeons, chaired by Dr. S. Arthur Boruchoff. Another review is currently underway by a subcommittee of the Board of Surgeons to evaluate the relationship between the residency and fellowship programs. The Otolaryngology Residency Program was also





reviewed as Dr. Harold Schuknecht presented to both the Board and the Corporation a newly-revised Otolaryngology Residency Program that extends the current three-year program to four years.

The Executive Committee has been following the progress of the Ad Hoc Committee on Ambulatory Services which was charged by the Board of Managers late last year to study the advisability of reorganization of the Infirmary's Ambulatory Services. This Committee has accomplished an initial assessment of the Infirmary's strengths and weaknesses in delivery of our Ambulatory Services, and an Environmental Assessment of the Ambulatory Services Market outside the Infirmary.

The Board of Managers has also assigned to the Executive Committee responsibility for following the progress of the Ad Hoc Committee on Manpower and Medical Staff Appointment Criteria. This Committee, appointed last spring, is evaluating alternative systems to provide a framework, guidelines and criteria with which Medical Staff appointments would be made. The Committee recognizes the Infirmary's limited resources in accommodating numbers of staff and is addressing the long-range manpower needs and medical staff expansion. The issues addressed by this Ad Hoc Committee are very complex and the Committee is pleased to have had consultation with William Curran, Esquire, a Harvard Professor of Law, who is wellversed in the legal issues facing Medical Staffs.

It is because of the commitment in energy of so many and the blending of such diverse talents that we are able to report so much progress this year. Our thanks to all those involved who have given so much of their time. It should also be noted that at the Annual Meeting of the Corporation on December 10, August R. Meyer was elected President and Robert C. Jordan, Vice Chairman.



"... The laser, for example, is now standard treatment for many retinal problems, partificularly those that involve the abnormal growth of blood vessel and capillaries. Now, with all the new applications of the laser for glaucoma as well, they've had to build a new laser treatment room."

Charles D.J. Regan, M.D. Associate Chief of Ophthalmology Director, Retina Service

Om slide Chapter

Melville Chapin, Chairman

Robert Jada

Robert C. Jordan, President

Achievement of the status as one of the best Eye, Ear, Nose and Throat hospitals in the world requires a broad spectrum of talented minds — technical, as well as medical. The price of that leadership is our duty to the public to remain the best and to continually strengthen our research, teaching and clinical care.

As I prepare my report for the past year, I am gratified to think of our accomplishments, and, yet at the same time, a bit frustrated by our inability to make progress in some areas. It is most probably the natural give and take of divergent viewpoints which can sometimes delay forward momentum.

When we look at the diverse interests of constituent groups in hospitals, and particularly in teaching hospitals, we have reason at Massachusetts Eye and Ear Infirmary to be proud of our progress. All have genuine interests in *serving* our patients, though each serves from his or her own perspective.

The constituent groups are many. First, there are our physicians whose responsibility to the public may generally be research or teaching, with a focused responsibility in treating individual patients. Some physicians carry out their professional responsibilities almost entirely in the research field and some, at the other end of the spectrum, spend almost 100 percent of their time caring for individual patients. Some Infirmary physicians are fulltime hospital-based, while others have offices elsewhere but admit all of their patients to the Infirmary. Still others on our staff direct their primary interest in other institutions, admit most of their patients elsewhere, but keep close ties with the Infirmary by serving on our committees and participating in our residency training program.

Our physician groups include general ophthalmologists and otolaryngologists, subspecialists, anesthesiologists, specialists in internal medicine and in radiology. We have resident physicians who are here to learn more about clinical and academic otolaryngology and ophthalmology. We have Clinical and Research Fellows who have completed residency programs and are here to further specialize in their chosen fields.

To further support medical care either in the laboratory, in the classroom, or at the patient's side there are Doctors of Philosophy, Doctors of Science, nurses, nurse anesthetists, bacteriologists, laboratory and radiology technicians, and a host of other back-up personnel, all of them serving patients directly or indirectly.

There are still other constituent groups within the Infirmary. The Corporation, the Board of Managers and the Management Group, individually and collectively, are also here to serve the patients and public at large. The Corporation members and the Board members, as trustees, contribute their time and energies without

compensation. They do so because they believe in the American health delivery system of relatively autonomous units presided over by voluntary public representatives and in the particular mission of the Massachusetts Eye & Ear Infirmary.

The Corporation members' responsibility is to elect annually a Board of Managers, to lend their talents to committee work and, to the extent possible, to garner philanthropic support to further the Infirmary's capacity to provide services to the public.

The Board of Managers, either directly or through its committees, determines priorities, sets goals, and allocates resources to ensure an intelligent balance of resource utilization for the benefit of the public. The Board is also responsible for organizing systems and procedures that assure optimal patient care at all levels. The Board delegates to the General Director the responsibility of organizing a management staff for the coordination and evaluation of our resource utilization within set goals and priorities.



The Board also delegates to the Chiefs of Service the responsibility for basic and clinical research, medical teaching and education, and over-all clinical care at the Infirmary. Through the Medical Staff Bylaws, the Board delegates to the Medical Staff President the responsibility for creating committees and other structures to ensure quality medical care, to conduct peer review programs, and to evaluate and monitor individual performance and the use of resources for optimal patient care.

The rationale behind the Board's 1967 policy decision to replace and expand the Infirmary continues today as the basis for the policy of maintaining our preeminent role as a center for research, education, training, and clinical care in ophthalmology and otolaryngology. A complementary policy directs us to utilize the talents of all physician groups, both hospital based and nonhospital based, and to create a more well-rounded training program.

All members of the Infirmary's constituent groups have their own individual needs and a responsibility to their patients and the public at large. However, each constituent group's unique contribution is needed to make a superb and unexcelled hospital. In the best interest of our specialties, as well as to achieve an optimal level of public service, we must continue to grow together. I believe most people in all groups at the Infirmary agree that the unique and productive blend of our diverse interests is the Infirmary's greatest strength.

I would like to cite some examples of the accomplishments and progress which we have made this past year as a result of our collaborative efforts:



"I anticipate that
Medical Records' move
to new, larger quarters
will enhance professionalism not only
from the standpoint of
the medical records
system for the patients,
but also for the employees in the department."

Barbara Houtman Director, Medical Records

- The award of a grant from the State Office of Energy Resources and the Federal Department of Energy, as well as a Certificate of Need approval, for our cost containment project to replace our steam absorption chiller with an electric-driven centrifugal chiller.
- The creation and implementation of a new laser facility. Utilization of this equipment has been substantially greater than anticipated.
- The development in the Medical Records Department of an internal quality assurance program which may serve as a model for future efforts in other departments.
- The presentation of a broad-gauge Management Development program, which was extremely well received by our department managers and nursing supervisors.
- The substantial improvement of the Charles Street Garage operation. This facility is now fully rented both in terms of monthly parking availability and commercial retail space. Additionally, the transient parking revenues are now running well ahead of budget.

- The approval of the Infirmary's Determination of Need application for a CT Scanner.
- The establishment of a Research Advisory Committee by the Board of Managers to provide them with informed oversight fo the Infirmary's over-all research efforts.

These are just a few examples taken from the wide spectrum of accomplishments which are a source of pride and satisfaction to many people throughout the institution.

I believe the priorities we have chosen reflect our greatest needs. In the late sixties it was the unanimous wish of all constituent groups to replace and expand the physical plant That goal is within reach. If we are fortunate, as we hope we will be with our fundraising efforts, we can begin to place priority emphasis on the other functions, i.e., research and educational endowment, new models for clinical care on an ambulatory basis, clinical outreach programs, better coordinated and more effective educational and training programs, and broadened management programs and productivity measurements in cost control

During this past year as we worked toward our goals, we moved forward with deliberate speed that I believe is consistent with our diverse interests. I am pleased to be a part of the dynamics at the Massachusetts Eye and Ear Infirmary, and I look forward to our future of working together and the continued growth which it will bring.



Charles Wood

Charles T. Wood, General Director

Report of the Chief of Otolaryngology

Quite clearly, this has been a good year for the Department of Otolaryngology as we have made progress in several areas.

Clinical Services

Dr. Roland Eavey has been appointed to a newly created position of Director of Ambulatory and Emergency Services as well as Pediatric Otolaryngologist on the hospital-based staff. His special interests and training will insure a high quality of medical care for our ambulatory patients while at the same time maximizing these services as a teaching resource. Dr. Barbara Sprague has joined Dr. Aaron Thornton as Associate

Ann Baker, add importantly to the quality of our medical and surgical care.

The audiology section evaluated 9,077 patients last year. This department now consists of 9 clinical audiologists, all with masters degrees, working under the direction of Rhoda Morrison. Because of the increasing demand for these services, another soundproof test unit is being added to the 6 now in use. The Electronystagmography (ENG) Laboratory where tests of the vestibular (balance) system are performed evaluated 469 patients of whom 234 were in-house and 235 were referred from outside the Infirmary.

"There are the physical changes I have seen here at the Infirmary — an increase in the number of operating coms, cheerier patient coms — but beyond all the brick-and-mortar change, there are still nany of the old-timers here. This contributes to a family-type atmosphere."

Nilliam G. Lavelle, m.D. Assistant Surgeon in Otolaryngology, President of he Medical Staff, 1982



Director of the Auditory Evoked Response Laboratory. During the past year, 534 patients were evaluated in this laboratory. Facial nerve testing is now a regular service of this laboratory.

Last year the Department of Otolaryngology cared for 42,412 ambulatory patients of whom 22,247 were cared for in the outpatient clinic; 13,671 in the emergency ward; and 6,494 in the offices of the fulltime staff. Additionally there were 4,466 hospital admissions on the otolaryngology service of which 3,559 were private and 907 were service cases. The section of internal medicine headed by Dr. Lloyd Axelrod and the infectious disease service, directed by Dr. A total of 4,277 operative procedures were performed during the past year, of which 1,381 were service and 303 were private cases. Among the surgical cases, 68 were laryngectomies, 66 radical neck dissections, 682 nasal and sinus procedures, 435 facial plastic operations (including rhinoplasties), 192 tympanoplasties, and 241 stapedectomies. About 82% of the surgical cases are private patients of the visiting staff and provide an important resource for our teaching program.

Teaching Program

During the past 20 years otolaryngology has been an elective course in the curriculum of the Harvard Medical School and about 80% of the senior class take the course. These students are given didactic lectures, work in the outpatient clinics and observe surgery. Teaching is done by a dedicated group of volunteer staff physicians and residents under the direction of Dr. William Wilson. The increasing popularity of family practice has created a greater need for undergraduates to know about diseases of the ears, nose and throat. It seems likely that otolaryngology may again become a required course for Harvard Medical students.

Each year we see increasing numbers of applications for residency positions. Many highly qualified young physicians have to be turned away simply because we do not have enough positions. Last year we improved the teaching of basic sciences to residents through a series of lectures and discussions held on Saturday mornings. For many years the period of residency training has been three years, but in conformity with the national trend, it will be increased to four years beginning in 1984. The lengthening of the training period is necessary because of the broadening of otolaryngology to include maxillofacial reconstructive surgery, cosmetic surgery,

neurotological surgery, and also because of the advancing complexities of diagnosis and therapy.

Research

Basic research in the Department of Otolaryngology is performed in four laboratories: 1) the Eaton Peabody Laboratory of Auditory Physiology, directed by Dr. Nelson Kiang, 2) the Laboratory of Ear Morphology, directed by Dr. Robert Kimura, the Rhinolaryngology Laboratory, directed by Dr. William Montgomery and 4) the Otopathology Laboratory, directed jointly by Drs. Harold F. Schuknecht and Joseph B. Nadol, Jr. Dr. William R. Wilson and Dr. Roland D. Eavey are directors of clinical research projects. In the Department, there are a total of seven research technicians and four research fellows. The Infirmary provides an ideal opportunity for both clinical and basic research. The daily contact of clinical investigators with basic scientists provides the best possible setting for meaningful research. The success of our search for new knowledge is apparent in the list of publications which last year numbered 25 clinical and 26 basic scientific papers.

All who work in the Infirmary are fully aware and appreciative of the resourcefulness and dedication of our trustees. They, as much as we, have made this Infirmary a quality institution for health care, teaching and research. We have the resources to ease the burdens of those who suffer from ear, nose and throat disease. We have an obligation to use these tools effectively and at the same time to seek new approaches in prevention and therapy that will reduce those burdens.

Harred & Delukeredus

Harold F. Schuknecht, M.D. Chief of Otolaryngology



"In the years I've been here I've seen enormous changes in the breadth of services to our patients. Until 14 years ago we did not test the hearing of very young children or perform hearing aid evaluations. Now we evaluate more patients who come for hearing aid tests than almost any other agency in Boston. The expansion of the Audiology Department will permi us to see more patients with less delay and will allow for more privacy with our patients."

Rhoda K. Morrison Director, Audiology

neport or the Chier or Ophthalmology

This past year has been an active and dynamic period for the Massachusetts Eye and Ear Infirmary. The activities have expanded in quality and sophistication in virtually every field. New initiatives have been taken and an additional hospital construction program has been started.

Clinical Services and Staff

The clinics continue to be busy, with a total of more than 90,000 visits, including private patients. About one-third of these patients were seen in the Emergency Room, another third in the General Eye Service, and the remainder in the various subspecialty clinics. A total of 7,936 major eye operations and 3,247 minor procedures were performed. The average length of stay in ophthalmology is now down to 4.8 days.

Several new subspecialized clinics have been established. In addition to the regular Ocular Motility Clinic, a Pediatric Clinic is now seeing children twice a week. Dr. Stephen Fricker, who has for many years been a very effective Director of Pediatrics/ Motility, resigned during the year and he was replaced by Dr. Johan Zwaan. A new Ocular Surface Clinic is headed by Dr. Richard Thoft

and Dr. Stephen Foster has started a new Immunology/ Uveitis Clinic.

Other personnel changes include the retirement of Dr. Morton Grant from his administrative position as Director of Glaucoma Service. Dr. Grant pioneered this Service and has devoted many years of clinical and educational effort. Fortunately he will stay on the staff and continue his eminent research and teaching in glaucoma on a part-time basis. Dr. David Epstein has now assumed the Directorship of the Glaucoma Service. In the Neuro-Ophthalmology Service, Dr. Shirley Wray has resigned as Director to move to the Massachusetts General

Hospital, after eight years of dedicated service. There is presently a search going on for a new Director to be recruited on a full Harvard professorial level. The search committee is presently evaluating candidates both nationally and internationally.

The structure and function of the ambulatory services have been under scrutiny for some time and the possibility of a financial and administrative reorganization is being evaluated. The Board of Managers has appointed a committee to study various models and to try to explore new forms of organization.

"The Siemens CT
Scanner that will be
installed in May|June
of 1982 — and which,
by the way, is technologically the most
advanced model in
the Boston area — will
significantly change the
management and workup of patients who will

be seen or admitted to the Mass. Eye and Ear. It will allow an increase in the volume of patients we can see here so they will not have to go elsewhere."

Gloria I. Chang, M.D. Assistant in Radiology





"Cultural exchange between the Chinese and American people helps us to understand each other as well as to make productive research advances. I will go back home with many new ideas for research, clinical treatment and teaching."

Ni Chou, M.D. Research Fellow in Ophthalmology from the People's Republic of China The size of the eye staff and the need for future manpower have also been the subject of study during the past months. The eye staff is presently very large (about 125) and the number is straining the existing resources of beds and operating rooms. It has become clear that there must be some restriction of admission to the eye staff and the medical and legal implications of such future restrictions are now being investigated by another Board of Managers subcommittee.

The Infirmary is presently continuing its construction program which will benefit clinics and activities for the Eye Service. Thus, the General Eye Service, the Retina Service, the Glaucoma Service, Eye Pathology, Neuro-Ophthalmology, Pediatric Ophthalmology, and Research areas will be renovated or expanded. An area for day surgery will undoubtedly benefit the Ambulatory Surgical program substantially. This may both increase the practicality of eye surgery and diminish the cost.

We mourn the loss of Dr. Joseph Clough who made innumerable contributions to the Infirmary during his many years on the Eye Staff.

Teaching

Many proposed changes in teaching are being studied by the Teaching Committee as well as other committees. The curriculum for medical students is presently being revised by the Harvard Medical School. At this time, ophthalmology is virtually all elective, but we have asked that there be more obligatory time and we expect our request to be approved by the Medical School.

The residents' curriculum is constantly being reevaluated and there was some reorganization during the past year. After five very effective years as Director of Residency Training, Dr. Stephen Foster resigned to devote more time to research. He was replaced by Dr. David Dueker. Dr. Bradford Shingleton is this year's Chief Resident. Conferences for residents have been expanded in number and

sophistication. The residents start every morning with a conference and all Saturday morning is devoted to lectures and conferences. The American Academy of Ophthalmology's home-study program forms an integral part of the teaching program. The new surgical laboratory has become a boon for surgical teaching and several well-attended surgical courses were given during the year.

The fellowship program continues to be very strong. However, that too is under scrutiny in terms of the requirements for being a fellow, numbers, interactions with the residency, etc.

The Lancaster Course is still the nation's leading course in ophthalmology. The Harvard Basic Science Course has drastically changed its format—it has been shortened to two months and its teaching made more effective.

Research

The Infirmary's research program continues to do better every year in spite of the dismal financial climate. Although the grant situation nationally is quite poor, the Infirmary has thus far been relatively unaffected. Very strong laboratory research programs exist in retina, glaucoma, pathology, lens and pediatrics. In addition, clinical research is flourishing, particularly in the various subspecialty clinics. The productivity in terms of significant papers and the national and international presence of our investigators is at an all-time high.

Vaes Johlman

Claes H. Dohlman, M.D. Chief of Ophthalmology







"There have been certain programs I believe have been advantageous for better patient care and nursing development. This has been due in part to nursing staff education programs which have included ones on diabetes, assertiveness, cardiac arrythemia, and intravenous. . ."

Bridget McDermott, R.N. Head Nurse, 13th Floor Once upon a time it took billions of years for changes to evolve. As people populated the earth and put their brains to work, change speeded to hundred-year intervals, then tens of years and now — now sometimes a mere month passes before new technology emerges that could significantly influence the course of our lives.

At one time it seemed impossible to halt epidemic outbreaks of contagious diseases such as tuberculosis, diphtheria, typhoid and cholera. At one time no one imagined that pain could be lessened, other than by perhaps a shot of whiskey. No one could have previously imagined the body's inner workings that were to be revealed by the x-ray, dye studies, ultrasound, and, more recently, the subtle variations in tissue densities that are evident in a CT scan.

Modern medicine can cure yesterday's untreatables only to contend with new problems the sources of which are not yet understood. In the process of amassing the current magnitude of knowledge, medicine has become totally dependent on technology. Diagnosis cannot be undertaken without laboratory tests, physical probing with instruments or without photo or graphic readouts from machines. This partnership of the practitioner with technology has been an overall healthy one. Technology through the years has enticed the sometimes reluctant physician to break old habits and embrace new methods. Technology has forced each generation to change its view of what is deemed possible.

The more sophisticated methods of diagnosis have increased the degree of accuracy in pinpointing disorders, a critical first step in planning treatment. But despite all the advances, there are an enormous number of unanswered questions. Methods of managing diseases are constantly changing, based on new bits of information, but real breakthroughs result from a genuine understanding of disease mechanisms. Such understanding arises usually from meticulous, directed research, although a serendipitous, "chance favors the prepared mind" discovery such as was the case with penicillin is of course possible.

The proliferation of specialized technology and knowledge has spawned the specialization boom in medicine this century. The Massachusetts Eye and Ear Infirmary, a specialty hospital since its founding in 1824, epitomizes the growth of specialization that was an inevitable offshoot of burgeoning knowledge. Its specialties, Ophthalmology and Otolaryngology, were historically the first to break from general practice.

So much is known yet remains to be known about the eye's functioning that even an Ophthalmologist, a physician who has specialized in the care and treatment of the eye, cannot now be an expert in all areas. At the Massachusetts Eye and Ear Infirmary there are sub-specialty experts and separate clinics for different parts of the eye, e.g., Cornea Service (there are more than 1000 diseases of the cornea alone) and Retina Service (for treatment of disorders of this vital tissue of the eye that is responsible for transmitting images to the brain). Glaucoma has 40 variations, most with different treatment regimens.

"I had three corneal transplants at Mass. Eye and Ear and found that the hardest part of the entire process was waiting for eye tissue to become available for transplantation. The gift of sight is an incredible thing and fortunately corneal transplants have such a high success rate. But the shortage of eye tissue is critical. I was determined then as now to do what I can on behalf of the New England Eye

Bank to reduce the waiting time that others endure."

Mrs. Malcolm B. Carsley Executive Committee of the New England Eye Bank Former patient





"We have realized through research in the Howe Laboratory a more basic understanding of glaucoma. This knowledge has been used to develop more appropriate medications and treatments. I have every reason to believe that our long-anticipated new laboratory quarters will further enhance the

quality of research and its applications to patient care."

David L. Epstein, M.D.
Assistant Surgeon in Ophthalmology, new Director of the Glaucoma Service researcher, Howe Laboratory

"I've seen big changes in my 17 years here. We've gone from a 5-story building for which I was the only electrician to a sophisticated building that is totally mechanized and computerized. Now we need 5 electricians to maintain the building in addition, of course, to the many other tradesmen."

Harold Noonan Electrician, Maintenance



There is a separate Glaucoma Clinic. There are also services for Ocular Motility, Pediatrics, Neuro-Ophthalmology, Plastic-Orbit and Immunology/Uveitis, as well as a General Eye Service which acts as the coordinator of patients' ophthalmic care. Otolaryngologists, too, have had to sub-specialize to keep pace with proliferating knowledge. There are experts on the ear and its pathology, on the throat area, on head and neck tumors, on allergy, and on plastic and reconstructive surgery.

Health care is now a complex endeavor, requiring many people, different modes of delivery, round-the clock therapy, and well-coordinated scheduling. The hospital has become the matrix in which progress is made by humans exchanging information with humans and by humans interfacing with technology.

The specialization and the technological progress of medicine created the necessity not only for physicians to specialize, but for nurses and other professionals. In addition to the staff nurses who administer the day-to-day care of patients admitted to the hospital, there are emergency room nurses, nurse anesthetists, recovery room nurses, clinic nurses and operating room nurses. All have advanced training and have been oriented to the needs of patients with existing or threatened loss of valued senses — speech, hearing or sight. Recognizing that hospitalization can be a dehumanizing process and that adaptation to illness or sensory impairment is traumatic, social workers in the Social Service Department are available to speak to anyone who needs their support. At Mass. Eye and Ear, even the social workers specialize in either Eye or ENT (ear, nose and throat) social work.

Technology requires technicians. There are technicians to run equipment in radiology and the operating room, and there are biomedical engineers. There are laboratory technologists in the Clinical Laboratory and the Bacteriology Laboratory 24 hours per day to handle daily and emergency diagnostic services. There are audiologists, optometrists and people who administer electrical testing of visual and auditory function.

A hospital is a very active place, and the challenge these days is not to fragment patient care to the point where there is no centralized control over each patient's total care. There must always be someone to whom to direct questions. The importance of the emotional aspects of disease or injury is profound. When persons enter a hospital they have to shed some identity to play the role of "patient". But they also have the right to be treated as persons whose feelings are significant, and not just as "the detached retina in room 1121." This is terrain where machines may never tread. Machines cannot empathize, make observations and judgments, nor convey comfort.



"When I first came here (12 years ago) I was the only nurse in the EW and there was 1 Eye and 1 ENT treatment room. Now there are 3 ENT screening rooms, 3 Eye screening rooms, 2 ENT minor surgery rooms, 1 Eye minor surgery room and 2 laser treatment rooms. Nursing involvement with patient care has increased in the EW, particularly if the patient is to be prepared for admission."

Jeanne Dupont, R.N. Head Nurse, Emergency Ward

"In my many years at the Infirmary, I've seen exciting breakthroughs in prevention of sensory deprivation, major changes in understanding of patient needs and great improvement in patient facilities . . . All of these changes have influenced the ways we provide social service. Shorter hospital stays and the growing number of patients coming from a distance have made crisis intervention an increasingly important part of our practice. With the new building there is space now for real privacy for

individual counseling and space for our developing group programs."

S. Madeline Shipsey, LICSW Director, Social Service



"Research into the mechanisms and diseases of the eye began over 100 years ago. But research then was limited to what one could learn by looking at tissue specimens with a microscope or by injecting fluid into the eye to imitate its circulation. Apparatus in the last 50 years has vastly multiplied for evaluating all aspects of the visual process: the optical, electrophysiological and the psychophysical.

Specialized instruments and methods have developed into useful clinical tools for diagnosing eye disorders and managing medical and surgical treatments."

W. Morton Grant, M.D. Surgeon in Ophthalmology retiring Director of the Glaucoma Service





"Pediatric ENT has only recently become a recognized subspecialty. I love to treat kids mainly because if you win, you win really big. If I excise a tumor, fix a laryngeal problem to reinstate breathing, treat a hearing problem, I know that child is fixed for a lifetime."

Roland D. Eavey, M.D.
Director, ENT Pediatrics
Director, ENT Ambulatory and
Emergency Services

Some amazing things happen daily in an active, internationally renowned Harvard teaching hospital such as the Mass. Eye and Ear. The 14 operating rooms are usually scheduled at full capacity and provide the arena for tonsillectomies, cataract surgery, CO2 laser surgery on the larynx, stapedectomies, corneal transplants, reconstructive surgery, or various tumor excisions. Ear surgeons were the first to perform microsurgery in the 1950s. Using high magnifications possible with an operating microscope, miniature instruments and silk-fine threads, surgeons have been able to perform meticulous manipulations in miniscule sections of the eye and ear and, if necessary, suture afterwards with painstaking precision. Microsurgical techiques have revolutionized treatment.

Various forms of blindness and deafness and diseases that threaten the senses are still major health problems in the United States and the world. Earlier and more accurate diagnoses have improved prognosis, but treatment is often a stopgap and not a cure.

Ideally, clinicians and researchers working together in a hospital under one roof will share perspectives to tackle problems. Some physicians serve as both researchers and clinicians, and consequently patients can benefit from any up-to-date treatment that is an application of research results.

Significant progress seems exceedingly slow. After all, a century elapsed after the cell was first described before Virchow in the late 1800s demonstrated that the disruption of cellular function was a basis of disease. That was only the beginning. Focus has necessarily been directed way beyond the cellular level to the chemical and molecular pathways in disease mechanism. Answers seem elusive, always a bit beyond grasp, and clues only unearth more questions. Researchers persevere, however, fueled by the possibilities.

Expansion and renovation has not disrupted services or research at the Mass. Eye and Ear the past ten years, but it has commanded the administration's and staff's attention. All desired that there should be a facility as near to perfect as possible for the treatment, teaching and research of diseases and injuries of the eye, ear, nose and throat. That completion is so near was apparent in 1981 as discussion turned from what could be to what will be.

Times have changed and the Infirmary changed with them. Responding to accommodate modern technology is in part responsible for the change. But technology is not the only instigator of change. Technology, like life, remains stagnant without its power source: human intellect, ingenuity, creativity.

Ellen Barlow Massachusetts Eye and Ear Infirmary

Financial Statements Massachusetts Eye and Ear Infirmary

Operating Funds Balance Sheet
September 30, 1981

Current assets:		¢ 2.014.075	Current liabilities:		
Cash		\$ 3,814,865	Current installments of long-term debt		\$ 975,000
Accounts receivable	\$ 8,272,619		Accounts payable		2,048,406
Less allowance	, ,		Accrued expenses		485,819
for doubtful receivables	955,597	_	Due to other funds		2,164,037
		\$ 7,317,022	Total current liabilities:		\$ 5,673,262
Investments, at cost					
(quoted market		0.062.054			
value \$2,904,925) Inventories		2,963,054			
Prepaid expenses		300,865 78,846	Other liabilities:		
Due from investment		70,040	Long-term debt, less current installment		14 220 040
pools					14,228,048
Estimated contractual			Total liabilities		\$19,901,310
adjustments		974,335			
Total current assets		\$15,448,987			
Other assets:			Fund balances		
Property, plant and			General operating fund	\$ 4,345,990	
equipment	\$47,694,987		Depreciation fund—	(404 706	
Less accumulated	12 052 005		unrestricted	6,404,736	
depreciation	13,853,825		Plant fund	18,638,113	
Total other assets		\$33,841,162	Total fund balances		\$29,388,839
Total operating funds		\$49,290,149	Total operating funds		\$49,290,149

Statement of	Patient service revenue:		\$32,420,766
Revenue and Expenses September 30, 1981	Adjustment to patient revenue for uncollectible accounts, free care and contractual allowances		3,070,633
	Net patient service revenue:		\$29,350,133
	Other operating revenue (including \$7,933,914 from research and other specific purpose funds):		10,371,492
	Total operating revenue		\$39,721,625
	Operating expenses: Patient service (including depreciation) Research and other specific purpose	\$31,721,437	
	direct expense	7,933,914	
	Total operating expenses		\$39,655,351
	Hospital net income from operations		\$ 66,274

Financial Statements Massachusetts Eye and Ear Infirmary

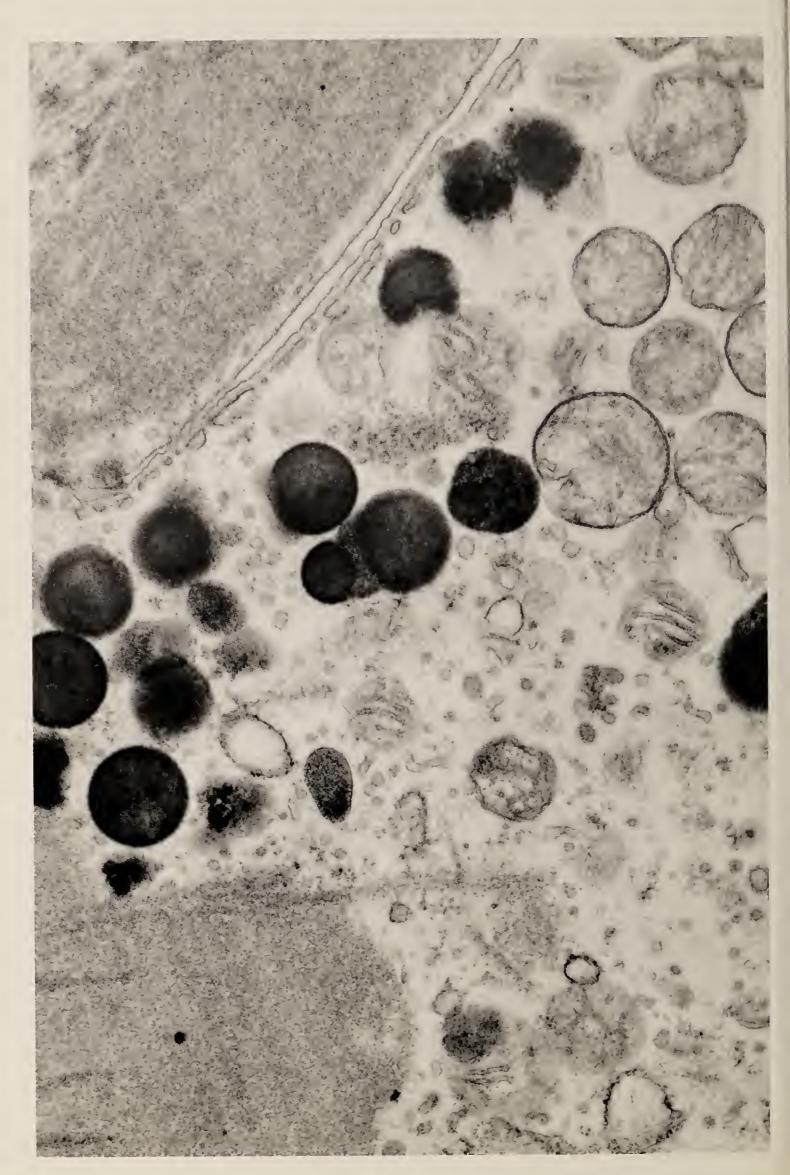
Income from investments Gifts and bequests Donated income—various estates	\$ 1,542,268 1,361,626 210,580
	\$ 3,114,474

Restricted fun	ds
Balance sheet	
September 30,	1981

Specific purpose funds:		Accounts payable	\$ 278,635
Cash Investments at cost (quoted market value \$2,706,101) Due from other funds	\$2,271,174 2,688,461 2,112,730	Fund balances Special purpose Temporary	4,287,107 2,077,011
Due from investment pools	273,300 \$ 7,345,665	Unexpended restricted income	702,912 \$ 7,345,665
Endowment funds:		Equity in undistributed security	
Cash	\$ 12,777	pool gains Fund balances	\$ 3,155,668
Investments at cost (quoted market value \$12,829,051)	13,429,490	Income restricted Income unrestricted	1,884,131 8,402,468
	\$13,442,267		\$13,442,267
Building fund:			
Cash Construction in progress Due from other funds	\$ 1,019,211 2,867,988 51,307	Accounts payable Fund balance	\$ 226,946 3,711,560
	\$ 3,938,506		\$ 3,938,506

Fisca	. ,	1	Ω	Q 1	1	1 (2	0	n	
FISCA	7/	н	9	8	I —	ľ	71	۲ı	v.	

		1981	1980
Inpatient Hospital 174 beds	Admissions: Eye patients ENT patients	7,912 4,460	7,602 4,541
	Total admissions	12,372	12,143
	Operations: By Eye House Staff By Eye Attending Staff	896 7,176	1,159 6,539
	Total Eye operations	8,072	7,698
	By ENT House Staff By ENT Attending Staff	690 3,587	1,068 3,200
	Total ENT operations	4,277	4,268
	Total operations	12,349	11,966
	Discharges: Death Autopsies	12,388 14 14%	12,078 14 7%
	Patient days Average patient census Average length of stay Bed utilization	55,498 152 4.49 87%	55,164 151 4.57 87%
Outpatient Department	Eye Clinic Total Eye visits	45,595	48,197
	ENT Clinic Total ENT visits	22,247	22,609
	Total OPD visits	67,842	70,806
Emergency Ward	Eye cases ENT cases	23,394 13,671	23,213 16,697
	Total	37,065	39,910
Ambulatory Surgery	Eye cases ENT cases	3,247 2,239	2,802 2,040
	Total	5,486	4,842
Special Services	Audiology Electroretinography (tests) Fluorescein (tests) Low vision Neuro-ophthalmology Otoneurology (tests) Ultrasonography (tests) Radiology (exams)	11,191 839 2,869 311 1,066 356 363 29,942	11,052 1,063 2,941 210 978 419 444 28,834
	Eye pathology (specimens) ENT pathology (specimens) Clinical laboratory (procedures) Bacteriology (cultures)	4,457 10,371 111,772 13,627	3,923 10,655 104,910 13,765



Members of the Corporation

1934 Hon. Robert F. Bradford, honorary

1948 August R. Meyer

1948 Miss Amelia Peabody, honorary

1951 Hon. Francis W. Hatch, Jr., honorary

1951 Melville Chapin

1951 Henry K. Porter

1952 George A. McLaughlin, Sr.

1955 Richard P. Chapman

1955 Weston Howland, Jr. 1957 William L. Saltonstall

1963 Thomas B. Frost

1963 Frederick H. Lovejoy,

honorary 1965 George M. Lovejoy, Jr.

1965 Mrs. John Lowell

1966 Francis S. Hill, honorary

1966 Robert Bacon

1966 James I. Summers

1966 Leo F. Daley, Sr.

1967 Paul A. Chandler, M.D., honorary

1967 Edwin B. Dunphy, M.D., honorary

1967 Mrs. F. Murray Forbes

1967 John M. Lord

1967 Leroy A. Schall, M.D.

1967 William F. Spang

1967 Monte J. Wallace

1968 Colin McA. Cunningham

1969 Richard W. Young, Ph.D.

1970 Ephron Catlin, Jr.

1970 Mrs. Frederick R.H. Witherby

1971 Avram J. Goldberg

1971 Robert C. Jordan

1971 Mrs. Robert C. Meisel

1971 Robert D. Williams

1972 Matthew J. Burns 1972 Leo H. Daley

1972 Mrs. William P. Ellison

1972 Richard Harte

1973 Dominic P. DiMaggio

1973 J. Frank Gerrity

1973 Robert T.P. Storer, Jr. 1973 Frederick G.P. Thorne

1974 Bruce A. Beal

1974 William C. Mercer

1975 Bernard R. Baldwin

1975 William Salatich

1976 Walter A.

Rosenblith, ING. RAD.

1976 Gustave M. Solomons

1976 Mrs. James Foster

1976 Frederick Winthrop, Jr.

1977 Mrs. Lillian Fishburn 1977 Herbert W. Gray

1977 Stanley G. Russell, Jr.

1977 Sandra Carnegie Steele

1977 Mrs. Alice W. Yancey 1978 R. Widmer Hubbs

1979 William H. Claflin IV

1979 Thomas L. Raleigh, Jr.

1979 Mrs. Ernest J. Sargeant

1979 Miss Ann Sargent

1980 Haynes H. Fellows, Jr.

1980 Thomas Reardon

1980 Eli Shapiro, Ph.D.

1980 Endicott Smith

1981 Joseph Auerbach

1981 Peter A. Brooke 1981 W. Peter Carey

1981 Maynard Goldman

1981 John C. Kane, Jr.

Board of Managers

Melville Chapin,

Chairman Robert C. Jordan,

Vice Chairman

August R. Meyer,

President

Robert D. Williams,

Vice President J. Frank Gerrity,

Treasurer

Mrs. John Lowell,

Secretary

John O'Sullivan Francis*

Edward E. Jacobs, Jr., M.D.*

Henry K. Porter

Thomas L. Raleigh, Jr. William F. Spang

Robert T.P. Storer, Jr.

James I. Summers

Mrs. Frederick R.H. Witherby

*Appointed by the Commonwealth

Standing **Committees**

Accreditation Committee

Matthew J. Burns,

Chairman Daniel M. Albert, M.D.

Margarete L. Arndt

Eleanor Bushman Leo H. Daley

Claes H. Dohlman, M.D.

Richard Giovanoni

Max L. Goodman, M.D.

Judith M. Grant

Judith Harvey, R.N.

Barbara Houtman

Jeffrey R. Kelly

Herbert Kirshnit

William G. Lavelle, M.D.

August R. Meyer

Edward H. Moore

Rhoda K. Morrison

Harold F. Schuknecht, M.D.

S. Madeline Shipsey

Richard J. Simmons, M.D.

Porter H. Smith, M.D.

Charles Snyder

Alfred L. Weber, M.D.

Alfred D. Weiss, M.D.

Dennis White

Robert D. Williams Charles T. Wood

Audit Committee

Margarete L. Arndt

W. Peter Carey

Thomas B. Frost

J. Frank Gerrity

Herbert W. Gray

Thomas L. Raleigh, Jr. Anthony P. Reis

Charles T. Wood

Budget Committee

August R. Meyer,

Chairman Thomas Slowey,

Costs/Budgets, Manager

Margarete L. Arndt

Margery Arnold Claes H. Dohlman, M.D.

James F. Donnelly III Judith M. Grant

, Judith Harvey, R.N.

Robert C. Jordan Jeffrey R. Kelly

Patricia McCabe

Edward H. Moore William W.

Montgomery, M.D.

Charles D.J. Regan, M.D. Anthony P. Reis

Harold F. Schuknecht, M.D.

Porter H. Smith, M.D.

William F. Spang Betty Stanford

James I. Summers

Richard A. Thoft, M.D. Alfred L. Weber, M.D.

Dennis White

Mrs. Frederick R.H. Witherby Charles T. Wood Mrs. Alice W. Yancey

Executive Committee August R. Meyer,

Chairman

Melville Chapin Leo H. Daley

Claes H. Dohlman, M.D. J. Frank Gerrity

William G. Lavelle, M.D.

Mrs. John Lowell

Harold F. Schuknecht, M.D.

Richard J. Simmons, M.D.

Porter H. Smith, M.D. James I. Summers

Charles T. Wood

Human Studies Committee

Robert D. Williams, Chairman

Margery Arnold

Max L. Goodman, M.D. W. Morton Grant, M.D.

Robert S. Kimura, M.D.

R. W. Lamont-Havers, M.D. Harold F. Schuknecht, M.D.

Sandra Carnegie Steele Robert T.P. Storer, Jr.

Richard A. Thoft, M.D. Charles T. Wood

Investment Committee

J. Frank Gerrity,

Chairman

Melville Chapin

Richard Harte

Robert C. Jordan August R. Meyer

Anthony P. Reis Frederick G. P. Thorne

Charles T. Wood

Nominating Committee Leo F. Daley, Sr.,

Chairman Melville Chapin

Richard Harte August R. Meyer Robert D. Williams

Charles T. Wood

Personnel and Pension

Committee

Henry K. Porter, Chairman

William H. Claflin IV Thomas B. Frost

R. Widmer Hubbs Robert C. Jordan

Jeffrey R. Kelly

Mrs. Robert C. Meisel Robert D. Williams Charles T. Wood

Planning Committee

James I. Summers,
Chairman
Margery Arnold
Claes H. Dohlman, M.D.
Maynard Goldman
Jeffrey R. Kelly
William G. Lavelle, M.D.
John M. Lord
Thomas L. Raleigh, Jr.
Anthony P. Reis
Harold F. Schuknecht, M.D.
Richard J. Simmons, M.D.
Porter H. Smith, M.D.
Charles T. Wood

Public Relations and Development Committee

Melville Chapin,
Chairman
Bernard R. Baldwin
Colin McA. Cunningham
Dominic P. DiMaggio
Anne M. Gilmer
William G. Lavelle, M.D.
Mrs. John Lowell
Mrs. Ernest J. Sargeant
James I. Summers
Charles T. Wood

Other Committees and Groups

Library and Archives Committee

Thomas J. Mulvaney, M.D., Chairman
Daniel M. Albert, M.D.
Henry F. Allen, M.D.
Claes H. Dohlman, M.D.
Edwin B. Dunphy, M.D.
Oscar Handlin
B. Thomas Hutchinson, M.D.
John W. Irwin, M.D.
Jeffrey R. Kelly
Nelson Y.S. Kiang, Ph.D.
Robert S. Kimura, Ph.D
C. Robin LeSueur
Mrs. John Lowell
William W.

Montgomery, M.D. Abraham Pollen, M.D. Harold F. Schuknecht, M.D. Porter H. Smith, M.D. Charles Snyder Richard A. Thoft, M.D.

Building Subcommittee

J. Frank Gerrity, Chairman Margery Arnold Joseph Auerbach Robert C. Jordan John C. Kane, Jr. Charles T. Wood Cambridge Street Community Development Corporation

Margery Arnold Bruce A. Beal H. Widmer Hubbs Sandra Carnegie Steele Charles T. Wood

Energy Conservation Committee

William C. Mercer,
Chairman
Andrew B. Baker
Joseph Bellefontaine
Lewis Corson
Arthur Doherty
Cecil K. Drinker
Hope Fisk
Anne M. Gilmer
Herbert Kirshnit
Alexander MacArthur
Edward H. Moore
Philip Paradis

Controlled Risk Insurance Company August R. Meyer

Professional Services Review Committee

William G. Lavelle, M.D., Chairman Margarete L. Arndt Barry J. Benjamin, M.D. Robert A. Gorn, M.D. Judith Harvey, R.N. Roland E. Houle, M.D. C. Edward Jackson, M.D. Byron S. Lingeman, M.D. William W.

Montgomery, M.D. Angelo J. Pappanikou, M.D. Rufus C. Partlow, Jr., M.D. Harold F. Schuknecht, M.D. Porter H. Smith, M.D. Richard A. Thoft, M.D. Charles T. Wood Program Evaluation Committee

Charles T. Wood,
Chairman
Margarete L. Arndt
Margery Arnold
Lloyd Axelrod, M.D.
Claes H. Dohlman, M.D.
Anne M. Gilmer
Maynard Goldman
Edward E. Jacobs, Jr., M.D.
Jeffrey R. Kelly
William G. Lavelle, M.D.
William W.

Montgomery, M.D. Charles D.J. Regan, M.D. Anthony P. Reis Harold F. Schuknecht, M.D. Richard J. Simmons, M.D. Porter H. Smith, M.D. Richard A. Thoft, M.D. Alfred L. Weber, M.D.

Social Service Advisory Committee

Mrs. Robert C. Meisel, Chairman Elaine D. Carrol, M.D. Barbara Dawson Ruth Farrisey, R.N. Mrs. Albert R. Frederick, Jr. George E. Garcia, M.D. Judith Harvey, R.N. Deborah Hyland, R.N. Jeffrey R. Kelly Kenneth R. Kenyon, M.D. Mrs. John Lowell Donna Jones Montgomery Rhoda K. Morrison Joseph B. Nadol, Jr., M.D. Rosanne Ring S. Madeline Shipsey Alfred D. Weiss, M.D. Charles T. Wood

Legislative Committee

Thomas L. Raleigh, Jr., Chairman Joseph Auerbach Anne M. Gilmer Edward E. Jacobs, Jr., M.D. Thomas Reardon Charles T. Wood

Research Advisory Committee

Walter A.
Rosenblith, ING. RAD.,
Chairman
Margery Arnold
Claes H. Dohlman, M.D.
Nelson Y.S. Kiang, Ph.D.
Alexander Leaf, M.D.
Harold F. Schuknecht, M.D.
Eli Shapiro, Ph.D.
Torsten Wiesel, M.D.

General Director Charles T. Wood

> Assistant Director for Planning Margery Arnold

Assistant Director for Development and Public Affairs
Anne M. Gilmer

Assistant to the Director Patricia McCabe

Consultant to the General Director for Development and Public Affairs F. Weston Prior

Associate Director for Management Systems Margarete L. Arndt

Associate Director for Fiscal Affairs
Anthony P. Reis

Associate Director for Administration
Jeffrey R. Kelley

Administrative Assistant Judith M. Grant

Director of Nursing Judith Harvey, R.N.

Assistant Administrator James F. Donnelly III

Assistant Administrator Edward H. Moore

Director of Personnel Betty Stanford

Assistant Administrator for Ambulatory Services
Dennis White

Departments and Services

Accounting Andrew B. Baker, Manager

Admitting Ruth Dorfman, R.N., Manager

Communications Eileen Clegg-Carroll, Manager

Costs Budgets Thomas Slowey, Manager

Data Processing Kenneth Sprankle, Manager

Dietary Services Herbert I. Kirshnit, Director

Maintenance Services Philip Paradis, Director

Medical Records Barbara Houtman, Director

Purchasing and Stores Lehan Power, Director

Professional Services Review Rose Brault, M.S.N., Director

Scheduling Mary Louise Davis, Manager

Security and Parking Lewis Corson, Manager

Volunteer Services Rosanne Ring, Director

Executive Committee Mrs. Albert R. Frederick, Jr., President Mrs. Robert C. Meisel, First Vice-President Mrs. Silvio vonPirquet, Second Vice-President Mrs. Harold F. Schuknecht, Treasurer Mrs. John Lowell, Recording Secretary and Gift Shop Chairman Mrs. Calvin A. King, Corresponding Secretary Mrs. Edgar H. Kent, Honorary Member Donna Jones Montgomery, Immediate Past President

Mrs. Henry F. Allen Mrs. D. Robert Alpert Mrs. Manning Barry Miss Patricia Barry Mrs. Barry Benjamin Mrs. Maurice Berlin Mrs. Yale Berry Mrs. C.J. Boulris Mrs. Richard Bowman Mrs. Harry E. Braconier Mrs. Edwin J. Carr

Mrs. John Carroll III Mrs. Malcolm B. Carsley Mrs. Thomas Cavanaugh Mrs. Richard B. Chapman

Mrs. Julian F. Chisholm, Jr. Mrs. Nathaniel D. Clapp Susanne C. Summers

Clorite Mrs. Thomas P. Cronin Mrs. Colin McA. Cunningham Miss Winifred A.

Cunningham Mrs. Leo F. Daley Mrs. Richard Dallow

Mrs. Benjamin C. Davis Mrs. Daniel F. DiPalma Mrs. Claes-Henrik

Dohlman

Mrs. Edgar Driscoll, Jr. Mrs. Edwin B. Dunphy Mrs. Howard M. Ecker Mrs. Phyllis Eliot Mrs. William Ellison

Miss Emilie Farnsworth Mrs. F. Murray Forbes

Mrs. Albert R. Frederick, Jr.

Mrs. Richard R. Gacek Mrs. Harold S. Geneen Mrs. Kweku Ghartey Mrs. Avram J. Goldberg Mrs. Robert L. Goodale Mrs. Max Goodman Mrs. F. Laurence Gosnell Mrs. W. Morton Grant Mrs. Trygve Gundersen Mrs. Thomas L. Higgins Mrs. Edgar M. Holmes Mrs. R. Widmer Hubbs Mrs. Alfred L. Hurst Mrs. Edward E. Jacobs, Jr. Mrs. Carl C. Johnson Mrs. Roy A. Johnson Mrs. Robert C. Jordan Ruth Keefe Mrs. James H. Kelly Mrs. Edgar H. Kent Mrs. Calvin A. King Mrs. Herbert Kirshnit Mrs. Thomas R. Klein Mrs. Robert E. Klotz Mrs. Clarence E. Knapp Mrs. Milton Knight Mrs. Robert F. Kurtz Mrs. Clarence E. Kylander Mrs. J. Richard Lamere Mrs. William Lavelle

Mrs. Bertram H. Loewenberg Mrs. Robert H. Lofgren

Mrs. Peter Lou *Mrs. John Lowell Mrs. Henry Lyman, Jr. Miss Anita Mangiaracine Mrs. Arthur E. Margulies Mrs. David B. McClosky

Mrs. J. Wallace McMeel Mrs. Robert C. Meisel Mrs. Daniel Miller Mrs. G. Gardner Monks *Donna Jones Montgomery

Moseley III Mrs. Stephen P. Mugar Mrs. Joseph Nadol Mrs. James J. O'Donnell Mrs. George M. Olive, Jr. Mrs. Irving Pavlo

Mrs. Frederick S.

Mrs. Enid Fay Phillips Mrs. Henri Prunaret Mrs. Franklin Reece Mrs. P. Loring Reed Mrs. Charles D.J. Regan Miss Florence Reid

Mrs. William M. Riegel Mrs. Karl Riemer Mrs. William Rogers Mrs. Phillips H. Roland II

Mrs. Aram Roopenian Mrs. Milton Rosenthal

Mrs. Baruch Sachs Mrs. Ernest J. Sargeant Mrs. Charles L. Schepens Mrs. Harold F. Schuknecht Mrs. Alfred W. Scott Mrs. Earl S. Seale Mrs. John G. Sebestyen Mrs. Samuel Simons *Mrs. William A. Slade, Jr. Mrs. Albert E. Sloane Mrs. Taylor R. Smith Mrs. George E. Stephenson Mrs. W.J. Sullivan *Mrs. James I. Summers Mrs. Thomas C. Thacher Mrs. John C. Thayer Mrs. Silvio von Pirquet Mrs. Donald R. Weis Mrs. Lyon Weyburn Mrs. Henry R. Wile Mrs. William R. Wilson Mrs. Andrew N. Winslow, Jr. Mrs. Victor A. Wolff

Honorary Members Loretta McLaughlin Rosanne Ring Barbara Schnider

*Past President

Joint Staff Executive Committee

William G. Lavelle, M.D., Chairman
A. Robert Bellows, M.D.
Claes H. Dohlman, M.D.
Roland E. Houle, M.D.
C. Edward Jackson, M.D.
August R. Meyer
Joseph A. Moretti, M.D.
Harold F. Schuknecht, M.D.
Richard J. Simmons, M.D.
Porter H. Smith, M.D.
Taylor R. Smith, M.D.
William R. Wilson, M.D.
Charles T. Wood

Ophthalmology

Active Staff

Chief of Ophthalmology Claes H. Dohlman, M.D.

Associate Chiefs of Ophthalmology Charles D.J. Regan, M.D. Richard A. Thoft, M.D.

Surgeons in Ophthalmology

S. Arthur Boruchoff, M.D. Robert J. Brockhurst, M.D. Richard B. Chapman, M.D. Thomas P. Cronin, M.D. Claes H. Dohlman, M.D. David D. Donaldson, M.D. Stephen J. Fricker, M.D. George E. Garcia, M.D. John R. Gehring, M.D. W. Morton Grant, M.D. Warren D. Haley, M.D. B. Thomas Hutchinson, M.D. Robert C. Lawlor, M.D. Byron S. Lingeman, M.D. J. Wallace McMeel, M.D. Irving L. Pavlo, M.D. Charles D.J. Regan, M.D. Alfred W. Scott, M.D. David H. Scott, M.D. Richard J. Simmons, M.D. Taylor R. Smith, M.D. Richard A. Thoft, M.D.

Associate Surgeons in Ophthalmology

Lloyd M. Aiello, M.D. Daniel M. Albert, M.D. A. Robert Bellows, M.D. Eliot L. Berson, M.D. Charles K. Beyer, M.D. John M. Carroll, M.D. Albert R. Frederick, Jr., M.D. H. MacKenzie Freeman, M.D. Robert A. Gorn, M.D. Ralph H. Hinckley, M.D. Roland E. Houle, M.D. Joseph C. Kim, M.D. Joel A. Kraut, M.D. Eeva-Liisa Martola, M.D. George M. Olive, M.D. Deborah Pavan-

Langston, M.D.
Robert A. Petersen, M.D.
Ronald C. Pruett, M.D.
Perry Rosenthal, M.D.
Baruch J. Sachs, M.D.
John G. Sebestyen, M.D.
Harvey H. Slansky, M.D.
Silvio R. von Pirquet, M.D.
David S. Walton, M.D.
Donald R. Weis, M.D.
Michael S. Wiedman, M.D.

Associate Physician in Ophthalmology Shirley H. Wray, M.D.

Assistant Surgeons in Ophthalmology

Don C. Bienfang, M.D. Chester J. Boulris, M.D. Jack F. Bowers, M.D. Leo T. Chylack, Jr., M.D. Eugene C. Ciccarelli, M.D. Richard L. Dallow, M.D. David K. Dueker, M.D. David L. Epstein, M.D. Elliot M. Finkelstein, M.D. Richard P. Floyd, M.D. Alexander R. Gaudio, M.D. Evangelos S. Gragoudas, M.D. David Z. Greenseid, M.D. Arthur S. Grove, Jr., M.D. Tatsuo Hirose, M.D. David S. Hutchison, M.D. Eric H. Johnson, M.D. Jay H. Kaufman, M.D. Mohandas M. Kini, M.D. Arnold J. Kroll, M.D. Brent W. Lambert, M.D. James R. Lee, M.D. Ernst J. Meyer, M.D. Joseph P. Michon, Jr., M.D. David Miller, M.D. Peter B. Mooney, M.D. Edward B. Murphy, Jr., M.D. David G. Perkins, M.D. Donald W. Putnoi, M.D. Richard M. Robb, M.D. Kenneth A. Stampfer, M.D. Felipe I. Tolentino, Jr., M.D. David W. Tolpin, M.D. Clement Trempe, M.D. Paul F. Vinger, M.D.

Assistants in Ophthalmology

Mark B. Abelson, M.D. Ann M. Bajart, M.D. C. Davis Belcher, M.D. Frank G. Berson, M.D. John B. Constantine, M.D. Stephen R. Depperman, M.D. C. Stephen Foster, M.D. Kweku Ghartey, M.D. Edward F. Goodman, M.D. Phillip J. Harris, M.D. David A. Hill, M.D. Barry Jacobs, M.D. Kenneth R. Kenyon, M.D. Robert T. Lacy, M.D. Raymond R. Liggio, M.D. James T. Patten, M.D. Charles T. Post, M.D. Thomas M. Richardson, M.D. James Rosenberg, M.D. Edward A. Ryan, M.D. Caldwell W. Smith, M.D. David M. Tracy, M.D. George A. Violin, M.D. Mohammed Z. Wafai, M.D. Safa F. Wagdi, M.D. Harold A. Woodcome, M.D. Johan Zwaan, M.D.

Associate Staff

Assistants in Ophthalmology

Maida Antigua, M.D.
Michael Bradbury, M.D.
Stephen Cobb, M.D.
Peter L. Lou, M.D.
Richard Low, M.D.
Leon Remis, M.D.
Theodore J. Renna, M.D.
Roger F. Steinert, M.D.
John V. Thomas, M.D.
John Weiter, M.D.

Assistant Staff

Assistants in Ophthalmology Thaddeus Dryja, M.D. Howard Marton, M.D.

Consulting Staff

Consulting Chiefs in Ophthalmology Henry F. Allen, M.D. Paul A. Chandler, M.D. David G. Cogan, M.D.

Edwin B. Dunphy, M.D.

Senior Consulting Surgeons in Ophthalmology

D. Robert Alpert, M.D. Harry E. Braconier, M.D. Virgil G. Casten, M.D. Mahlon T. Easton, M.D. Trygve Gundersen, M.D. Carl C. Johnson, M.D. Brendan D. Leahey, M.D. Sumner D. Liebman, M.D. Henry A. Mosher, M.D. Ichiro D. Okamura, M.D. Abraham Pollen, M.D. Karl Riemer, M.D. Charles L. Schepens, M.D. Earl S. Seale, M.D. Albert E. Sloane, M.D. Garrett L. Sullivan, M.D. Francis J. West, M.D.

Honorary Staff

Associate Surgeons in Ophthalmology Frederick B. Breed, M.D.

Carl Freese, M.D.
John M. Hill, M.D.

Assistant Surgeons in

Ophthalmology
Julian F. Chisholm, M.D.
Robert Kinder, M.D.
Arthur M. Morrissey, M.D.
Bertha Offenbach, M.D.

Assistant in Ophthalmology Robin Cook, M.D.

Services

General Eye Service Charles D.J. Regan, M.D., Director

Glaucoma Service
David L. Epstein, M.D.,
Director

Cornea Service Kenneth R. Kenyon, M.D., Director

Motility-Pediatrics Service
Johan Zwaan, M.D.,
Acting Director

Neuro-Ophthalmology Service Don C. Bienfang, M.D.,

Acting Director

Retina Service Charles D.J. Regan, M.D., Director

Plastic-Orbit ServiceArthur S. Grove, M.D.,
Acting Director

Ophthalmic Pathology Daniel M. Albert, M.D., Director

Resident Training
David K. Dueker, M.D.,
Director
Bradford J. Shingleton, M.D.,
Assistant Director

Clinical Fellows in Ophthalmology

Retina Service Mark A. Bronstein, M.D. Sheldon Buzney, M.D. Ben Z. Cohen, M.D. Paul Dieckert, M.D. Kenneth Eng, M.D. Ira Garoon, M.D. Glenn J. Green, M.D. Brian Harper, M.D. Peter Hedstrom, M.D. Patrick Ho, M.D. Martin Mainster, M.D. William Mestrezat, M.D. Julian Nussbaum, M.D. Michael Pinnolis, M.D. Roland Sabates, M.D. Delia Sang, M.D.

Cornea Service
Helene Boisjoly, M.D.
Jettie Burnett, M.D.
Edward Galbavy, M.D.
David Mark, M.D.
Calvin Roberts, M.D.
Deborah Sendele, M.D.

Johanna Seddon, M.D.

Glenn Wing, M.D.

Glaucoma Service
Robert C. Allen, M.D.
William P. Boger III, M.D.
(part-time)
Joseph Burke, M.D.
(part-time)
Michael Drake, M.D.
R. Blair Evans, M.D.
Dorothy Horns, M.D.
Douglas H. Johnson, M.D.
Charles M. Lederer, M.D.
Claudia U. Richter, M.D.
Bradford J. Shingleton, M.D.
(part-time)
Omah Singh, M.D.

Neuro-Ophthalmology John R.W. Taylor, M.D.

Eye Pathology Jeremy Chess, M.D.

Plastic and Reconstructive Surgery Marie E. Bathrick, M.D. Miriam Dougherty, M.D.

Pediatric Anthony J. Fraioli, M.D.

Residents in Ophthalmology

Claudia A. Arrigg, M.D. George Arzeno, M.D. Gary E. Borodic, M.D. Phillip M. Gendelman, M.D. Jeffrey P. Gilbard, M.D. Peter C. Gruenberg, M.D. Charles S. Hill, M.D. Shalom J. Kieval, M.D. Jerry E. LeClaire, M.D. Steven Leibowitz, M.D. John C. Merriam, M.D. Kambiz Moazed, M.D. Carmen A. Puliafito, M.D. Alfredo A. Sadun, M.D. Jerry Sebag, M.D. Richard Sidd, M.D. Lois E. Smith, M.D. Frank A. Spellman, M.D. Daniel J. Townsend, M.D. Michael Wagoner, M.D. Robert C. Ward, M.D. Richard Weber, M.D. Roy Wilson, M.D. John J. Woog, M.D.

New England Eye Bank

Valerie P. Belcher, R.N., Executive Director S. Arthur Boruchoff, M.D. Richard A. Thoft, M.D. Medical Co-Directors

Executive Committee of New England Eye Bank Haynes H. Fellows, Jr., Chairman John K. Benson, Jr. S. Arthur Boruchoff, M.D. Mrs. Malcolm B. Carsley Mrs. James W. Dawson, Jr. Endicott Smith Richard A. Thoft, M.D. Charles T. Wood

Otolaryngology

Active Staff

Chief of Otolaryngology Harold F. Schuknecht, M.D.

Surgeons in Otolaryngology William L. Hayden, M.D. Alfred L. Hurst, M.D. Thomas R. Klein, M.D. Robert E. Klotz, M.D. Robert H. Lofgren, M.D. William W. Montgomery, M.D.

Harold F. Schuknecht, M.D.

Associate Surgeons in Otolaryngology Yale J. Berry, M.D. Robert P. Cipro, M.D. Allan G. Edwards, M.D. Richard L. Fabian, M.D. C. Edward Jackson, M.D. Roy A. Johnson, M.D. Donald G. Keamy, M.D. John M. Kurkjian, M.D. Clarence E. Kylander, M.D. Carl M. Lieberman, M.D. Joseph A. Moretti, M.D. Thomas J. Mulvaney, M.D. Joseph B. Nadol, Jr., M.D. Angelo J. Pappanikou, M.D. Rufus C. Partlow, M.D. Marshall S. Strome, M.D. Richard C. Webster, M.D. William R. Wilson, M.D.

Assistant Surgeons in Otolaryngology
Barry J. Benjamin, M.D.
Edward J. Glinski, M.D.
James P. Hughes, M.D.
Edward E. Jacobs, Jr., M.D.
James H. Kelly, M.D.
Ely A. Kirschner, M.D.
William G. Lavelle, M.D.
Jon B. Liland, M.D.
Stephen A. Smith, M.D.

Assistants in Otolaryngology Peter S. Ambrus, M.D. Stuart H. Bentkover, M.D. Elaine D. Carrol, M.D. Louise I. DiGregorio, M.D. Roland D. Eavey, M.D. Howard M. Ecker, M.D. Michael P. Joseph, M.D. Charles Leidner, M.D. Trevor J. I. McGill, M.D. David E. Nash, M.D. Joseph H. Oyer, M.D. Stephen W. Parker, M.D. Edward J. Reardon, M.D. Syed S. Rizvi, M.D. Howard G. Smith, M.D. Alfred D. Weiss, M.D.

Consulting Staff

Consulting Chief of Otolaryngology Leroy A. Schall, M.D.

Senior Consulting Surgeons in Otolaryngology
Walter J. E. Carroll, M.D.
J. Charles Drooker, M.D.
John R. Frazee, M.D.
Robert L. Goodale, M.D.
Edgar M. Holmes, M.D.
John E. McKeigue, M.D.
Daniel Miller, M.D.
John R. Richardson, M.D.
Bernard Zonderman, M.D.

Senior Consulting Associate Surgeons in Otolaryngology Aram Roopenian, M.D. John C. Trakas, M.D.

Honorary Staff

Associate Surgeons in Otolaryngology Charles Kent, M.D. Herman J. Sternstein, M.D.

Assistant Surgeon in Otolaryngology Elizabeth DeBlois, M.D.

Assistant in Otolaryngology Frank W. Brady, M.D.

Associate Staff

Associate Surgeon in Otolaryngology Werner D. Chasin, M.D.

Assistants in Otolaryngology Robert Wayne Clubb, M.D. Marvin P. Fried, M.D. John N. Vandemoer, M.D.

Consultant in ProsthodontiaPeter E. Goldberg, D.D.S.

Clinical Associate in Otolaryngology-Voice Therapy David B. McClosky

Clinical Research Associate Staff

Clinical Research Associate Aaron R. Thornton, Ph.D.

Services

Subdivision of Plastic and Reconstructive Surgery

Richard L. Fabian, M.D., Chief of Plastic and Reconstructive Surgery Aram Roopenian, M.D., Senior Consulting Associate Surgeon in

structive Surgery Richard C. Webster, M.D., Associate Surgeon in Plastic and Recon-

Plastic and Recon-

structive Surgery Edward E. Jacobs, Jr., M.D., Assistant Surgeon in Plastic and Reconstructive Surgery

William G. Lavelle, M.D., Assistant Surgeon in Plastic and Reconstructive Surgery

Howard M. Ecker, M.D., Assistant in Plastic and Reconstructive Surgery John N. Vandemoer, M.D., Assistant in Plastic and Reconstructive Surgery

Subdivision of Otolaryngologic Pathology

Max L. Goodman, M.D., Director Ben Z. Pilch, M.D., Assistant in Pathology

Head and Neck Tumor Clinic William W.

Montgomery, M.D., Director Robert E. Klotz, M.D., Associate Director

Endoscopy Service William W.

Montgomery, M.D., Director Thomas J. Mulvaney, M.D., Associate Director

Esophageal Voice Classes Eve Herbert, Director

Audiology Rhoda K. Morrison, Director

Pediatric Services Roland D. Eavey, M.D., Director

Residents

Fred G. Arrigg, Jr., M.D. Wayne Barber, M.D. Alfonso Barrera, M.D. Edward D. Donovan, M.D. Mark S. Granich, M.D. Aina J. Gulya, M.D. Maynard C. Hansen, M.D. Martin L. Hopp, M.D. Michael J. Kaplan, M.D. George Kazda, M.D. Thomas A. Mustoe, M.D. Charles M. Norris, Jr., M.D. Steven D. Rauch, M.D. Kevin A. Shumrick, M.D. Seth R. Thaller, M.D. David M. Vernick, M.D. Robert C. Y. Wang, M.D. Michael A. Williams, M.D.

Department of Anesthesiology

Active Staff

Chief of Anesthesiology Porter H. Smith, M.D.

Anesthesiologists John V. Donlon, Jr., M.D. Jin Woo Kim, M.D.

Associate Anesthesiologists Malcolm J. Heslop, M.D. Daniel W. Lang, M.D. Kathryn E. McGoldrick, M.D.

Assistant Anesthesiologists Charles G. Kelley, M.D. Jonathan Moss, M.D., Ph.D. Janine T.

Rodrigues-Saldanha, M.D. Lily G. Tabbal, M.D.

Assistants in Anesthesiology

Ismail S. Sensel, M.D. Heinrich R. von Helmstatten, M.D.

Associate Staff

Assistants in Anesthesiology (part-time)

Louis V. DiFrancesco, M.D. Jerrold H. Levy, M.D. Daniel Nozik, D.D.S. Carl E. Rosow, M.D.

Department of Radiology

Active Staff

Chief of Radiology Alfred L. Weber, M.D.

Associate Radiologists K. Jack Momose, M.D. James T. Rhea, M.D.

Assistant in Radiology Gloria J. Chang, M.D.

Consulting Staff

Consultants in Radiotherapy

Milford D. Schulz, M.D. Herman D. Suit, M.D. Chiu-Chen Wang, M.D.

Clinical Associates in Radiology

John R. Hesselink, M.D. Jeanne Keller, M.D. Daniel Kido, M.D.

Medical Unit

Active Staff

Chief of Medical Unit Lloyd Axelrod, M.D.

Consultants in Internal Medicine Lloyd Axelrod, M.D.

Gerald Doyle, M.D. Richard A. Field, M.D.

Epidemiologist and Consultant in Infectious Diseases; Associate Medical Director of Bacteriology

Ann S. Baker, M.D.

Consultant in Oncology Philip Amrein, M.D.

Associate Staff

Consultants in Internal Medicine

F. Richard Bringhurst, M.D. Daniel Carr, M.D. Norman Letvin, M.D. Robert Schooley, M.D. John Stakes, M.D. Katharine Treadway, M.D. Randall Zusman, M.D.

Consultant in Medicine (Pediatrics)

Ruth Liberfarb, M.D.

Clinical Services

Clinical Laboratory

Eleanor Bushman, Chief Medical **Technologist**

Microbiology

Joan Haaf, Bacteriologist

Operating Room

Evelyn Brewster, R.N., Director of Surgical Services

Pharmacy Richard Giovanoni, Director

Social Service

S. Madeline Shipsey, Director

Department of **Ophthalmology**

Howe Laboratory of Ophthalmology

Claes H. Dohlman, M.D., Director

Cecil K. Drinker, M.B.A., Research Administrator Daniel M. Albert, M.D. P. John Anderson, Ph.D. Don C. Bienfang, M.D. Hong-Ming Cheng, Ph.D. Leo T. Chylack, Jr., M.D. David K. Dueker, M.D. David L. Epstein, M.D. Stephen J. Fricker, M.D. M. Kathryn Gillis, Ph.D. W. Morton Grant, M.D. Judith Jedziniak-McGregor, Ph.D.

Donovan J. Pihlaja, Ph.D. Thomas M. Richardson, M.D. Johan Zwaan, M.D., Ph.D.

Librarian Charles Snyder

Research Fellows in Ophthalmology

David Birch, Ph.D. Antonia B. DeTineo, M.D. Per Fagerholm, M.D. Barry Golub, M.D. Mark Latina, M.D. Ni Chou, M.D. John Papale, M.D. Johan Seland, M.D.

Berman-Gund Laboratory for the Study of Retinal Degenerations

Eliot L. Berson, M.D., Director Roslyn Neustadt, Laboratory Administrator David G. Birch, Ph.D. Ross B. Edwards, Ph.D. Michael A. Sandberg, Ph.D. Susan Y. Schmidt, Ph.D. R. Bruce Szamier, Ph.D.

Research Associates in Ophthalmology

P. John Anderson, Ph.D. Hong-Ming Cheng, Ph.D. Ross Edwards, Ph.D. Judith Jedziniak-McGregor, Michael Sandberg, Ph.D.

R. Bruce Szamier, Ph.D. Ernst G. Wolf, Ph.D.

Department of Otolaryngology

Eaton Peabody Laboratory

Nelson Y.S. Kiang, Ph.D., Director Robert M. Brown, B.A. Steven H. Colburn, Ph.D. Alan H. Crist, S.B. Thomas L. Eby, M.D. Barbara C. Fullerton, Ph.D. John J. Guinan, Jr., Ph.D. Michael P. Joseph, M.D. Elizabeth M. Keithley, Ph.D. Robert A. Levine, M.D. M. Charles Liberman, M.D. Joseph B. Nadol, Jr., M.D. William T. Peake, Sc.D. William M. Rabinowitz, Ph.D. John J. Rosowski, Ph.D. Eric M. Rouiller, Ph.D. David K. Ryugo, Ph.D. William F. Sewell, Ph.D. Ishmael Stefanov-Wagner, B.S. David A. Steffens, S.B. Thomas F. Weiss, Ph.D.

Electron Microscopy Laboratory

Robert S. Kimura, Ph.D., Director

Evoked Response Audiometry Laboratory

Joseph B. Nadol, Jr., M.D., Co-director Aaron R. Thornton, Ph.D., Co-director

Histopathology Laboratory Harold F. Schuknecht, M.D.

Microcirculatory Laboratory

John W. Irwin, M.D., Director

Rhinolaryngology Research Laboratory William W.

Montgomery, M.D., Director

Research Fellows in Otolaryngology

Thomas L. Eby, M.D. Y.Z. Gao, M.D. Shang Rong Shi, M.D. Peter A. Walby, M.D.

Department of Ophthalmology

Chairman Claes H. Dohlman, M.D.

Professors of Ophthalmology

Daniel M. Albert, M.D. Claes H. Dohlman, M.D. W. Morton Grant, M.D.

Clinical Professor of Ophthalmology Henry F. Allen, M.D.

Associate Professors of Ophthalmology

Mathea R. Allansmith, M.D. Eliot L. Berson, M.D.
Leo T. Chylack, Jr., M.D.
David D. Donaldson, M.D.
David L. Epstein, M.D.
Stephen J. Fricker, M.D.
Evangelos S. Gragoudas, M.D.
Kenneth R. Kenyon, M.D.
David Miller, M.D.
Arthur H. Neufeld, Ph.D.
Charles D. J. Regan, M.D.
Liane Reif-Lehrer, Ph.D.
Richard M. Robb, M.D.
Richard A. Thoft, M.D.
Shirley H. Wray, M.D.

Associate Clinical Professors of Ophthalmology

Charles K. Beyer, M.D.
S. Arthur Boruchoff, M.D.
Robert J. Brockhurst, M.D.
H. MacKenzie Freeman, M.D.
Deborah Pavan-

Langston, M.D. Richard J. Simmons, M.D. Taylor R. Smith, M.D.

Assistant Professors of Ophthalmology

Alan R. Adolph, Ph.D.
Don C. Bienfang, M.D.
Hong-Ming Cheng, Ph.D.
Charles Cintron, Ph.D.
Peter F. Davison, Ph.D.
David K. Dueker, M.D.
C. Stephen Foster, M.D.
Ann B. Fulton, M.D.
Ilene K. Gipson, Ph.D.
Arthur S. Grove, Jr., M.D.
Bernard J. Jacobson, Ph.D.
Judith A. Jedziniak-

McGregor, Ph.D.
Luke H.S. Liu, M.D.
Noritsugu Mukai, M.D.
Robert A. Petersen, M.D.
Susan Y. Schmidt, Ph.D.
D. Max Snodderly, Jr., Ph.D.
R. Bruce Szamier, Ph.D.
David S. Walton, M.D.
Johan Zwaan, M.D.

Assistant Clinical Professors of Ophthalmology

Lloyd M. Aiello, M.D.
A. Robert Bellows, M.D.
Richard L. Dallow, M.D.
George E. Garcia, M.D.
Tatsuo Hirose, M.D.
B. Thomas Hutchinson, M.D.
J. Wallace McMeel, M.D.
Abraham Pollen, M.D.
Ronald C. Pruett, M.D.
Alfred W. Scott, M.D.
Felipe I. Tolentino, Jr., M.D.
Paul F. Vinger, M.D.
John Weiter, M.D.

Lecturers on Ophthalmology

Carl C. Johnson, M.D.
David M. Maurice, Ph.D.
Ni Chou, M.D.
Guiseppina d'Elia
Raviola, M.D.
Wang Shou-jing, M.D.

Principal Associate in OphthalmologyMiguel F. Refojo, M.D.

Associates in Ophthalmology

Bireswar Chakrabarti, Ph.D.
Francois C. Delori, Ph.D.
Marshall T. Doane, Ph.D.
Cecil K. Drinker, M.B.A.
Judith Friend, M.A.
Donovan J. Pihlaja, Ph.D.
Robert H. Webb, Ph.D.

Instructors in Ophthalmology

Alice J. Adler, Ph.D. P. John Anderson, Ph.D. Stephen P. Bartels, Ph.D. Frank G. Berson, M.D. Ross B. Edwards, Ph.D. Gilbert T. Feke, Ph.D. M. Kathryn Gillis, Ph.D. Ronald M. Hansen, Ph.D. Erwin Hultsch, M.D. Martin A. Mainster, M.D. Peter L. Lou, M.D. No Hee Park, Ph.D Benigno D. Peczon, Ph.D. Richard L. Pharo, D.Sc. Lawrence Rand, M.D. Michael A. Sandberg, Ph.D. George T. Timberlake, Ph.D. Mohammed Z. Wafai, M.D.

Clinical Instructors in Ophthalmology

Mark B. Abelson, M.D. William P. Boger III, M.D. John M. Carroll, M.D. Richard B. Chapman, M.D. Elliot M. Finkelstein, M.D. Albert R. Frederick, Jr., M.D. Alexander R. Gaudio, M.D. John R. Gehring, M.D. David Z. Greenseid, M.D. Peter P. Gudas, M.D. Ralph H. Hinckley, M.D. Roland E. Houle, M.D. David S. Hutchison, M.D. Jay H. Kaufman, M.D. Joseph C. Kim, M.D. Joel A. Kraut, M.D. Robert C. Lawlor, M.D. James R. Lee, M.D. Byron S. Lingeman, M.D. Ernst J. Meyer, M.D. Joseph Michon, Jr., M.D. Edward B. Murphy, Jr., M.D. George M. Olive, Jr., M.D. Irving L. Pavlo, M.D. Thomas M. Richardson, M.D. Perry Rosenthal, M.D. Edward A. Ryan, M.D. Baruch J. Sachs, M.D. John G. Sebestyen, M.D. Harvey H. Slansky, M.D. Donald R. Weis, M.D. Michael S. Wiedman, M.D.

Clinical Assistants in Ophthalmology

Ann M. Bajart, M.D.
C. Davis Belcher, M.D.
Jack F. Bowers, M.D.
Howard L. Feldman, M.D.
Richard P. Floyd, M.D.
Kweku Ghartey, M.D.
Barry H. Jacobs, M.D.
Robert T. Lacy, M.D.
James R. Rosenberg, M.D.
Roger F. Steinert, M.D.
John V. Thomas, M.D.
Daniel W. Tolpin, M.D.
Silvio R. von Pirquet, M.D.

Clinical Fellows in Ophthalmology

Robert Allen, M.D. Claudia A. Arrigg, M.D. George Arzeno, M.D. Helene Boisjoly, M.D. Gary Borodic, M.D. Jettie M. Burnett, M.D. Jeremy Chess, M.D. Michael Drake, M.D. Thaddeus Dryja, M.D. Blair Evans, M.D. Anthony J. Fraioli, M.D. Edward J. Galbavy, M.D. Phillip M. Gendelman, M.D. Jeffrey G. Gilbard, M.D. Peter C. Gruenberg, M.D. Charles Hill, M.D. Dorothy J. Horns, M.D.

Douglas Johnson, M.D. Shalom J. Kieval, M.D. Jerry LeClaire, M.D. Steven Leibowitz, M.D. David Mark, M.D. John C. Merriam, M.D. Kambiz Moazed, M.D. Michael Pinnolis, M.D. Carmen A. Puliafito, M.D. Claudia U. Richter, M.D. Calvin Roberts, M.D. Alfredo A. Sadun, M.D. Jerry Sebag, M.D. Johanna M. Seddon, M.D. Deborah D. Sendele, M.D. Bradford Shingleton, M.D. Richard J. Sidd, M.D. Lois E. Smith, M.D. Frank A. Spellman, M.D. Daniel Townsend, M.D. Michael D. Wagoner, M.D. Robert C. Ward, M.D. Richard Weber, M.D. Roy Wilson, M.D. John Woog, M.D.

Research Fellows in Ophthalmology David G. Birch, Ph.D. Robert B. Burrows, Ph.D. Sheldon Buzney, M.D. Antonia Boada

De Tineo, M.D. Per Fagerholm, M.D. Barry Golub, M.D. Olafur G.

Gudmundsson, M.D.
Mark Latina, M.D.
John H.K. Liu, M.D.
D. Luisa Mayer, Ph.D.
John J. Papale, M.D.
Pei Tren Hwa, M.D.
Johan Seland, M.D.
Cathy Stein, Ph.D.
John R.W. Taylor, M.D.
Vickery Trinkaus-

Randall, Ph.D. Wang Wen-ji, M.D. Richard P. Wetzig, M.D. John K. Wolfe, Ph.D. Akitoshi Yoshida, M.D.

Department of Otolaryngology

Walter Augustus LeCompte Professor of Otology and Laryngology Harold F. Schuknecht, M.D.

Professor of Otolaryngology William W.

Montgomery, M.D.

Clinical Professor of Otolaryngology Daniel Miller, M.D.

Associate Professors of Otolaryngology Gerald B. Healy, M.D. Joseph B. Nadol, Jr., M.D. Marshall S. Strome, M.D. William R. Wilson, M.D.

Assistant Professors of Otolaryngology Roland D. Eavey, M.D. Marvin P. Fried, M.D. James H. Kelly, M.D. M. Charles Liberman, Ph.D. Trevor J.I. McGill, M.D. Aaron R. Thornton, Ph.D.

Assistant Clinical Professor of Otolaryngology Robert H. Lofgren, M.D.

Clinical Instructors in Otolaryngology Peter S. Ambrus, M.D. Barry J. Benjamin, M.D. Stuart H. Bentkover, M.D. Yale J. Berry, M.D. Elaine D. Carrol, M.D. Louise I. DiGregorio, M.D. Allan G. Edwards, M.D. Richard L. Fabian, M.D. Ellen M. Friedman, M.D. Edward J. Glinski, M.D. William L. Hayden, M.D. Alfred L. Hurst, M.D. Edward E. Jacobs, Jr., M.D. Roy A. Johnson, M.D. Ely A. Kirschner, M.D. Thomas R. Klein, M.D. Robert E. Klotz, M.D. John M. Kurkjian, M.D. William G. Lavelle, M.D. Carl M. Lieberman, M.D. Jon B. Liland, M.D. Joseph A. Moretti, м.D. Thomas J. Mulvaney, M.D. David E. Nash, M.D. Joseph H. Oyer, M.D. Angelo J. Pappanikou, M.D. Rufus C. Partlow, M.D. Edward J. Reardon, M.D. Syed S. Rizvi, M.D. Howard G. Smith, M.D. Stephen A. Smith, M.D.

John C. Trakas, M.D.

Lecturers on OtolaryngologyWerner D. Chasin, M.D.
Walter A.
Rosenblith, ING. RAD.

Rosenblith, ING. RAD. Richard C. Webster, M.D.

Senior Research Associate in Otolaryngology Nelson Y.S. Kiang, Ph.D.

Research Associate in Otolaryngology Robert S. Kimura, Ph.D.

Research Fellows in Otolaryngology Thomas L. Eby, M.D. Y.Z. Gao, M.D. Zeev Horowitz, M.D. Michael P. Joseph, M.D. Shang Rong Shi, M.D. Peter A. Walby, M.D.

Principal Associate in OtolaryngologyJohn W. Irwin, M.D.

Clinical Fellows in

Otolaryngology Fred G. Arrigg, Jr., M.D. Wayne Barber, M.D. Alfonso Barrera, M.D. Edward D. Donovan, M.D. Mark S. Granich, M.D. Aina J. Gulya, M.D. Maynard C. Hansen, M.D. Martin L. Hopp, M.D. Michael P. Joseph, M.D. Michael J. Kaplan, м.D. George Kazda, M.D. Thomas A. Mustoe, M.D. Charles M. Norris, Jr., M.D. Steven D. Rauch, M.D. Kevin A. Shumrick, M.D. Alma J. Smitheringale, M.D. Seth R. Thaller, M.D. David M. Vernick, M.D. Robert C.Y. Wang, M.D. Michael A. Williams, M.D.

Medical Unit

Associate Clinical Professor of Medicine
Richard A. Field, M.D.

Assistant Professors of Medicine Lloyd Axelrod, M.D. Ann S. Baker, M.D. Randall Zusman, M.D.

Instructors in Medicine
F. Richard Bringhurst, M.D.
Robert Schooley, M.D.
Katharine Treadway, M.D.

Instructor in Medicine at Massachusetts General Hospital Philip Amrein, M.D. Clinical Instructor in Pediatrics
Ruth Liberfarb, M.D.

Instructor in Pathology Norman Letvin, M.D.

Research Fellow in Medicine Daniel Carr, M.D.

Clinical Fellow in Neurology John Stakes, M.D.

Department of Anesthesiology

Assistant Clinical Professors of Anesthesiology John V. Donlon, Jr., M.D. Jin Woo Kim, M.D. Kathryn E. McGoldrick, M.D. Porter H. Smith, M.D.

Assistant Professor of Anesthesiology Jonathan Moss, M.D., Ph.D.

Clinical Instructors in Anesthesiology Malcolm J. Heslop, M.D. Charles G. Kelley, M.D. Daniel W. Lang, M.D. Janine T. Rodrigues-Saldanha, M.D. Lily G. Tabbal, M.D.

Department of Radiology

Associate Professor of Radiology
Alfred L. Weber, M.D.

Assistant Professors of Radiology Daniel Kido, M.D. John R. Hesselink, M.D. K. Jack Momose, M.D. James T. Rhea, M.D.

Instructor in Radiology Gloria J. Chang, M.D.

Professor Emeritus of Radiation Therapy Milford D. Schulz, M.D.

Professors of Radiation TherapyHerman D. Suit, M.D.
Chiu-Chen Wang, M.D.

October 1, 1980 - September 30, 1981, Compiled by the Lucien Howe Library

Department of Nursing

*DUPONT Jeanne.: Eye disorders. Chapter in: *Diseases/* Horsham, Pa. Intermed Communications, 1981, pp. 1191-1206.

Department of Radiology

- *CHANG Gloria, Neumann H.: The role of ultrasonography in postoperative evaluation of renal transplants. Ultraschall in der Medizin 2:169-77, Sep 1981.
- KELLER Jeanne D.: Radiologic evaluation of the normal adult nasopharynx. Head & Neck Surgery 3:198-201, Jan-Feb 1981.
- Rhea James T, BENNACERRAF B, McCloud TC et al.: An assessment of the contribution of chest roentgenography in outpatients with acute chest complaints: a prospective study. Radiol 138:293-300, Feb 1981.
- RHEA James T, DeLuca SA.: The challenge of cost control. Radiol 139:237-8, Apr 1981.
- Rhea James T, DeLUCA SA.: Are routine oblique roentgenograms of the lumbar spine of value? J Bone Joint Surg 63A:846, Jun 1981.
- WEBER Alfred L.: X-ray of the month: Pleomorphic adenoma of the hard palate. Ann Otol 90:192-3, Mar-Apr, 1981.
- WEBER Alfred L, Shortsleeve M, Goodman ML, Montgomery WW.: Cartilaginous tumors of the larynx. Rev Interamer Radiol, Apr 1981.

Weber Alfred L (See SHUGAR MA).

Department of Anesthesiology

- *DONLON John V.: Local anesthesia for ophthalmic surgery: patient preparation and management. Ann Ophthalmol 12:1183-91, Oct. 1980.
- DONLON John V.: Anesthetic factors affecting intraocular pressure. Anesthesiol Rev 8:13-8, Jan 1981.
- DONLON John V.: Managing patients with limited airways. Resp Ther 11:40-5, May-Jun 1981.
- DONLON John V.: Anesthesia for eye, ear, nose and throat surgery. Chapter 44 in: Anesthesia/edited by R. Miller. — New York. Churchill Livingstone, 1981.

- DONLON John V.: Anesthetic management for ENT surgery. Chapter in: ASA refresher courses, vol. 9/edited by S. Hersey. — Philadelphia. Lippincott, 1981.
- Kim Jin W (See WILSON WR). McGOLDRICK Kathryn E.: Current concepts in anesthesia for ophthalmic surgery. Anesthesiol Rev 7:7-16, Dec 1980.
- McGOLDRICK Kathryn E.:
 Anesthesia for pediatric
 ophthalmologic surgery.
 Chapter in: Anesthesia for
 infants and chldren/edited by
 Robert M. Smith. 4th ed. —
 St. Louis. C.V. Mosby, 1980,
 pp. 477-80.
- McGOLDRICK Kathryn E.: Anesthetic management of homocystinuria. Anesthesiol Rev 8:42-5, Mar 1981.
- McGOLDRICK Kathryn E.: Transient left bundle block during local anesthesia. Anesthesiol Rev 8:36-9, Jun 1981.
- McGOLDRICK Kathryn E.: E.E. Slater, M.D. Profile of a young achiever. JAMWA 36:243-4, Aug 1981.
- MOSS Jonathan, Rockoff M.: EEG monitoring during cardiac arrest and resuscitation. JAMA 244:2750-1, Dec 19, 1980.
- MOSS Jonathan, Lapas DG, Slater EE.: Role of the renal catecholamine system in hemodynamic performance in man. In: Catecholamines and stress: recent advances/edited by Usdin, Kvetnansky and Kopin. — 1980.
- MOSS Jonathan, Fahmy NE, Saunder N, Beaven MA.: Hormonal and hemodynamic profile of an anaphylactic reaction in man. Circulation 63:210-3, Jan 1981.
- MOSS Jonathan, Rosow CE, Savarese JJ et al.: Role of histamine in the hypotensive action of d-Tubocurarine in humans. Anesthesiol 55:19-25, Jul 1981.
- Moss Jonathan, KONO K, Philbin DM et al.: Renal function and stress response during halothane or fentanyl anesthesia. Anesthesia Analgesia 60:552-6, Aug 1981.

Moss Jonathan, PHILBIN DM, Akins CW et al.: The use of H1 and H2 histamine antagonists with morphine anesthesia: a double blind study. Anesthesiol 55:292-6, Sep 1981.

Medical Unit

- *Axelrod Lloyd, COOPER DS, DeGroot LJ, et al.: Congenital goiter and the development of metastatic follicular carcinoma with evidence for a leak of nonhormonal iodide: clinical, pathological, kinetic and biochemical studies and a review of the literature. J Clin Endocrinol Metab 52:294-306, Feb 1981.
- AXELROD Lloyd, Levine L.: Prostacyclin production by isolated adipocytes. Diabetes 30:163-7, Feb 1981.
- AXELROD Lloyd, Bush MA, Hirsch HJ, Loo SWH.: Malignant somatostatinoma: clinical features and metabolic studies. J Clin Endocrinol Metab 52:886-96, May 1981.
- AXELROD Lloyd, Lloyd-Jones P, Ferris AM, Martin DB.: Enhancement of ketosis by 16,-16 dimethylprostaglandin E2 during the genesis of diabetic ketoacidosis in rats. Prostaglandins Med 6:147-52, 1981.
- AXELROD Lloyd, Nathan DM, Flier JS, Carr D.: U-500 insulin in the treatment of antibodymediated insulin resistance. Ann Intern Med 94:653-6, May 1981.
- AXELROD Lloyd, Nathan DM, Proppe KM et al.: Nesidioblastosis associated with insulin-mediated hypoglycemia in an adult. Diabetes Care 4:383-8, 1981.
- BAKER Ann S.: Diseases in pets. In: The Harvard Medical School health letter book/ edited by G.T. Johnson, S.E. Goldfinger. — Cambridge, Mass. Harvard University Press. pp. 157-60.

Baker Ann S (See AMBRUS PC).

Department of Otolaryngology Surgical and Research Staffs

- *AMBRUS Peter S, Eavey RD, Baker AS, Wilson WR, Kelly JH.: Management of nasal septal abscess. Laryngoscope 91:575-82, Apr 1981.
- Baden-Kristensen Keld (See WEISS TF).
- BOURK Terrence R, Meilcarz JP, Norris BE.: Tonotopic organization of the anteroventral cochlear nucleus of the cat. Hear Res 4:215-41, 1981.
- Brown Carl A (See WEBSTER RC). Carrol Elaine D (See KELLY JH).
- Eavey Roland D, STOOL S.: Tracheotomy. Chapter 70 in: Pediatric Otolaryngology/ edited by C. Bluestone and S. Stool. — Philadelphia, W.B. Saunders, 1980.
- Eavey Roland D (See AMBRUS PS).

- Fabian Richard L, ERVIN TJ, Miller D et al.: Treatment of advanced squamous cell carcinoma of the head and neck with cis-platinum, bleomycin, and methotrexate (P-B-M). Cancer Treat Rep 65:878-81, 1981.
- Fabian Richard L, ERVIN TJ, Karp DD, Miller D et al.: Role of chemotherapy in the multi-disciplinary approach to advanced head and neck cancer: potentials and problems. Ann Otol 90: 506-11, Sep-Oct 1981.
- Fabian Richard L (See Miller D, MILLER D).
- Fekete Donna M (See RUYGO DK).
- Fried Marvin P, HERRMANN HC, Kelly JH, Strome M.: The association of hearing deficit with Larsen's syndrome. J Otolaryngol 10:45-8, Feb 1981.
- FRIED Marvin P, Forrest JL.:
 Peritonsillitis, evaluation of
 current therapy. Arch Otolaryngol 107:283-6, May 1981.
- Fried Marvin P (See JOSEPH MP). GOODMAN Max L, McCahon CD, Irwin JW.: Fibrinogen and complement (C3) in inflammation induced anaphylaxis. Bibl Anat 20:318-21, 1981.
- Goodman Max L (See KELLY JH, WEBER AL).
- GRANICH Mark S, Pilch BZ.: Necrotizing sialometaplasia in the setting of acute and chronic sinusitis. Laryngoscope 91:1532-5, Sep 1981.
- Granich Mark S (See SHUGAR
- Hall Bradley (See WEBSTER RC).
 HAMMERSCHLAG Paul E,
 Schuknecht HF.: Transcanal labyrinthectomy for
 intractable vertigo. Arch
 Otolaryngol 107:152-6,
 Mar 1981.
- Hopping Steven B (See WEBSTER RC).
- Irwin John W, FROMER JL.:
 Historical notes: Biography of
 Walter Swan Burrage, M.D.
 New Engl Soc Allerg Proc
 2:126-8, 1981.
- lrwin John W (See GOODMAN ML).
- JOSEPH Michael P, Kelly JH, Fried MP, Strome M.: Alternatives to anteriorposterior packs for epistaxis. Plast Reconstr Surg 67:530-3, Apr 1981.
- Joseph Michael P (See KELLY JH). Kavesh Debra A (See Wilson WR). KELLY James H, Joseph MP,
- Carrol E, Goodman ML, Pilch BZ, Levinson RM, Strome M.: Inverted papilloma of the nasal septum. Arch Otolaryngol 106:767-71, Dec 1980.

Kelly James H (See AMBRUS PS, Fried MP, JOSEPH MP).

KIANG Nelson Y-S.: A reexamination of "The effects of partial section of the auditory nerve." [1]. Perspect Biol Med 24:254-69, Win 1981.

KIMURA Robert S.: Recent observations on experimental endolymphatic hydrops. In: Meniere's disease; pathogenesis, diagnosis and treatment, International Symposium, Dusseldorf, May 1980/edited by K.-H. Vosteen, H.F. Schuknecht, C.R. Pfaltz et. al. — Stuttgart. Georg Thieme Verlag, 1981, pp. 15-23.

Kimura Robert S (See SHINOZAKI N, SCHUKNECHT HF).

Kitamura Ken (See SCHUKNECHT HF).

LEVINE Robert A.: Binaural interaction in brainstem potentials of human subjects. Ann Neurol 9:384-93, Apr 1981.

Levinson Richard M (See KELLY

LIBERMAN M Charles.: Efferent synapses in the inner ear cell area of the cat cochlea: an electron microscopic study of serial sections. Hear Res 3:189-204, Oct 1980.

Meilcarz Jane P (See BOURK TR). Mendoza Ana M (See SCHUKNECHT HF).

MILLER Daniel, Ervin TJ,
Weichselbaum R, Fabian RL.:
The differential diagnosis of
the mass in the neck. A fresh
look. Laryngoscope 91:140-5,
Jan 1981.

Miller Daniel, ERVIN TJ, Fabian RL et al.: Chemotherapy for advanced carcinoma of the head and neck. A clinical update. Arch Otolaryngol 107:237-41, Apr 1981.

Miller Daniel, KIRKWOOD JM, Canellos GP et al.: Increased therapeutic index using moderate dose methotrexate and leucovorin twice weekly vs. weekly high dose methotrexate -leucovorin in patients with advanced squamous carcinoma of the head and neck: a safe new effective regimen. Cancer 47:2414-21, May 15, 1981.

Miller Daniel, ERVIN TJ,
Kirkwood J et al.: Improved
survival for patients with
advanced carcinoma of the
head and neck treated with
methotrexate-leucovorin prior
to definitive radiotherapy or
surgery. Laryngoscope
91:1181-90, Jul 1981.

Miller Daniel (See Fabian RL). MONTGOMERY William W.: Silicone tracheal cannula. Ann Otol Rhinol Laryngol 89: 521-8, Nov-Dec 1980. MONTGOMERY William W.: Trachealkanule aus silikon. Extracta aus silikon. Extracta Otorhinolaryngol 3:267-70, 1981.

MONTGOMERY William W.: Manual fur die pflege des trachealen T-Tubus aus silikon nach Montgomery. Extracta Otorhinolaryngol 4:273-4, 1981.

Montgomery William W (See SHUGAR MA, WEBER AL). Mulvaney Thomas J (See

SHUGAR MA).

NADOL Joseph B Jr.: Histopathology of Pseudomonas osteomyelitis of the temporal bone starting as malignant external otitis. Am J Otolaryngol 1:359-61, Nov 1980.

NADOL Joseph B Jr.: Pathoembryology of the middle ear. In: Fifth International Conference on Morphogenesis and Malformation of the Earledited by R.J. Gorlin. — New York. Alan Liss, 1980. pp. 181-209.

NADOL Joseph B Jr.: The aging peripheral hearing mechanism. In: Aging: communication processes and disorders/edited by D.S. Beasley and G.A. Davis. — Grune and Stratton. New York, 1980. pp. 63-85.

NADOL Joseph B Jr.: Reciprocal synapses at the base of outer hair cells in the organ of Corti in man. Ann Otol Rhinol Laryngol 90:12-7, Jan-Feb 1981.

Nadol Joseph B Jr, ARNOLD W, Weidauer H.: Ultrastructural histopathology in a case of human ototoxicity due to loop diuretics. Acta Otolaryngol 91:399-414, May-Jun 1981.

NADOL Joseph B Jr.: Treatment of carcinoma of the epiglottis. Ann Otol Rhinol Laryngol 90:442-8, Sep-Oct 1981.

Nash David, WEYMULLER EA, Reardon EJ.: A comparison of treatment modalities in carcinoma of the maxillary antrum. Arch Otolaryngol 106:625-9, Oct 1980.

NEDZELNITSKY Victor.: Sound pressures in the basal turn of the cat cochlea. J Acoust Soc Am 68:1676-89, Dec 1980.

Norris Barbara E (See BOURK TR).
Patterson H Clifton (See
WEBSTER RC).

Pilch Ben Zion, NEEL HB III, Pearson GR et al.: Anti-EBV serologic tests for nasopharyngeal carcinoma. Laryngoscope 90:1981-90, Dec 1980.

Pilch Ben Zion, PEARSON GR, Weiland LF et al.: Evaluation of antibodies to the Epstein-Barr virus in the diagnosis of American nasopharyngeal carcinoma. In: Cancer campaign, vol. 5, nasopharyngeal carcinoma/edited by E. Grundmann et al. — Stuttgart. Springer Verlag, 1981. pp. 231-6.

Pilch Ben Zion (See GRANICH MS, KELLY JH).

Reardon Edward J (See Nash D, SHUGAR MA).

RICHTER Ernst.: Quantitative study of Scarpa's ganglion and vestibular sense organs in endolymphatic hydrops. Ann Otol 90:121-5, Mar-Apr 1981.

RIZVI Syed S, Holmes RA.: Hearing loss from hemodialysis. Arch Otolaryngol 106:751-6, Dec 1980.

RUYGO David K, Willard F, Fekete DM.: Differential afferent projections to the inferior colliculus from the cochlear nucleus in the albino mouse. Brain Res 210:342-9, 1981.

SHINOZAKI Naoko, Kimura RS.: Scanning electron microscopic observations on the distended Reissner's and sacular membranes in the guinea pig. Acta Otolaryngol 90:370-84, Nov-Dec 1980.

SCHUKNECHT Harold F, Kitamura K.: Second Louis H. Clerf Lecture: vestibular neuritis, Ann Otol Rhinol Laryngol 90:Suppl 78, Jan-Feb 1981.

SCHUKNECHT Harold F, Mendoza AM.: Cochlear pathology after stapedectomy. Am J Otolaryngol 2:173-87, Mar 1981.

SCHUKNECHT Harold F.: The pathophysiology of Meniere's disease. Rationale of surgical procedures for Meniere's disease. In: Meniere's disease, pathogenesis, diagnosis and treatment, International Symposium, Dusseldorf, May 1980/edited by K.-H. Vosteen, H.F. Schuknecht, C.R. Pfaltz et al. — Stuttgart. Georg Thieme Verlag, 1981. pp. 10-15, 236-41.

Schuknecht Harold F, VOSTEEN K-H, Pfaltz CR et al.: Menière's disease; pathogenesis, diagnosis and treatment, International Symposium, Dusseldorf May 1980/edited by K.-H. Vosteen, H.F. Schuknecht, C.R. Pfaltz et al.—Stuttgart. Georg Thieme Verlag, 1981.

SCHUKNECHT Harold F.: Ear disease and hearing loss: where do we go from here? Chapter 15 in: Sensorineural hearing loss, vertigo and tinnitus, vol. I, Ear clinics international/edited by Michael M. Paparella and William L. Meyerhoff. — Baltimore. Williams and Wilkins, 1981.

Schuknecht Harold F (See HAMMERSCHLAG PF, WILSON WR).

SHUGAR Martin A, Granich MS, Reardon EJ.: The otolaryngologic presentation of botulism. Laryngoscope 91:121-4, Jan 1981.

SHUGAR Martin A, Weber AL, Mulvaney TJ.: Myositis ossificans following radical neck dissection. Ann Otol 90:169-71, Mar-Apr 1981.

SHUGAR Martin A, Montgomery WW, Hyslop NE.: Alternaria sinusitis. Ann Otol Rhinol Laryngol 90:251-4, May-Apr 1981.

Smith Richard C (See WEBSTER

Strome Marshall (See Fried MP, JOSEPH MP, KELLY JH).

WEBSTER Richard C, Brown CA, Hilger PA, Smith RC.: Face lift: comparison of early and late photographic results. Cosmetic Surg 1:55-8, 1981.

WEBSTER Richard C, Hopping SB, Patterson HC, Hall B, Smith RC.: Comments on chemical peel. Cosmetic Surg 1:73-82, 1981.

Webster Richard C (See BEYER CK).

WEISS Thomas F, Searle CL, Baden-Kristensen K.: Proportionality of intracellular resistance changes and receptor potentials in hair-cell models. Hear Res 4:243-50, 1981.

WILSON William R, Schuknecht HF.: Update on the use of streptomycin therapy for Meniere's disease. Am J Otol 2:108-11, Oct 1980.

WILSON William R.: ENG of the month. Pacemaker artifact on ENG tracing. Ann Otol Rhinol Laryngol 89:591, Nov-Dec 1980.

WILSON William R, Byl FM, Laird N.: The efficacy of steroids in the treatment of idiopathic sudden hearing loss. A double-blind clinical study. Arch Otolaryngol 106:772-6, Dec 1980.

Wilson William R, VELTRI RW, Kavesh DA, Sprinkle PM et al.: The implication of viruses in idiopathic sudden hearing loss: primary infection or reactivation of latent viruses. Otolaryngol Head Neck Surg 89:137-41, Jan-Feb 1981.

- WILSON William R, Zoller M.: Electronystagmography in congenital and acquired syphilitic otitis. Ann Otol Rhinol Laryngol 90:21-4, Jan-Feb 1981.
- WILSON William R, Kim JW.: Study of ventilation testing with electronystagmograpy. Ann Otol Rhinol Laryngol 90:56-9, Jan-Feb 1981.
- WILSON William R, Grove Arthur S Jr.: A method for combined dacryocystorhinostomy with external ethmoidectomy. Head Neck Surg 4:9-12, Sep-Oct 1981.
- Wilson William R (See AMBRUS PS, LUBIN JR).

Department of Ophthalmology Surgical and Research Staffs

- *ABELSON Mark B, Collin B, Gillette TE, Dohlman CH.: Recurrent keratoconus after keratoplasty. Am J Ophthalmol 90:672-6, Nov 1980.
- Abelson Mark B, ALLANSMITH MR, Baird RS et al.: Technical aspects of histamine determination in human tears. Am J Ophthalmol 90:719-24, Nov 1980.
- ABELSON Mark B, Udell IJ, Weston JH et al.: Normal human tear p^H by direct measurement. Arch Ophthalmol 99:301, Feb 1981.
- ABELSON Mark B, Udell IJ.: H2receptors in the human ocular surface. Arch Ophthalmol 99:302-4, Feb I98I.
- Abelson Mark B (See UDELL IJ).
 AIELLO Lloyd M, Rand Ll,
 Briones JC, Wafai MZ,
 Sebestyen JG.: Diabetic
 retinopathy in Joslin Clinic
 patients with adult-onset
 diabetes. Ophthalmology
 88:619-23, Jul 1981.
- Aiello Lloyd M (See PAVAN PR). ALBERT Daniel M.: Allvar Gullstrand: a tribute on the 50th anniversary of his death. Am J Ophthalmol 90:579-80, Oct 1980.
- ALBERT Daniel M.: Allvar Gullstrand, I862-I930: a lonesome giant of optical theory. Trends Neurosci 3: iv-vi, Dec I980.
- ALBERT Daniel M.: The role of viruses in the development of ocular tumors. Ophthalmology 87:1219-25, Dec 1980.
- Albert Daniel M, FULTON AB, Craft JL, Zakov ZN, Howard RO.: Retinal anomalies in trisomy I8. Albrecht von Graefes Klin Exp Ophthalmol 213:195-205, 1980.

- ALBERT Daniel M.: Needs for animal models of human diseases of the eye. Induced animal models of human ocular disease with particular consideration of ocular melanoma. Am J Pathol IOI:S177-S185, 1980.
- ALBERT Daniel M.: Granulomatous inflammation of the eye. In: The Lancaster course in ophthalmic histopathology/edited by W.C. Frayer. Philadelphia. F.A. Davis, 1980.
- ALBERT Daniel M, Sang DN.:
 Retinoblastoma and pseudoglioma. In: The Lancaster
 course in ophthalmic
 histopathology/edited by W.C.
 Frayer. Philadelphia. F.A.
 Davis, 1980.
- ALBERT Daniel M, Puliafito CA.: Melanomas of the eye. In: The Lancaster course in ophthalmic histopathology/edited by W.C. Frayer. — Philadelphia. F.A. Davis, 1980.
- ALBERT Daniel M, Gonder JR, Papale JJ, Craft JL, Dohlman GH, et al.: Induction of ocular neoplasms in Fischer rats by intraocular injection of nickle subsulfide. In: Nickle toxicology/edited by S. Stanley Brown and F.W. Sunderman, Jr. London. Academic Press, 1980.
- ALBERT Daniel M, Shadduck JA, Craft JL, Niederkorn JY.: Feline uveal melanoma model induced with feline sarcoma virus. Invest Ophthalmol Vis Sci 20:606-24, May 1981.
- Albert Daniel M, NORDLUND JJ, Taylor NT, Wagoner MD, Lerner AB.: The prevalence of viriligo and poliosis in patients with uveitis. J Am Acad Dermatol 4:528-36, May 1981.
- Albert Daniel M, SMYTH JR, Boissy RE, Fite KV.: Retinal dystrophy associated with a postnatal amelanosis in the chicken. Invest Ophthalmol Vis Sci 20:799-803, Jun 1981.
- Albert Daniel M, LEHAV M, Bahr R, Craft J.: Eyelid tumors of sweat gland origin. Albrecht von Graefes Arch Klin Ophthalmol 216:30I-II, 1981.
- Albert Daniel M (See BEYER CK, BIENFANG DC, DRYJA TP, GONDER JR, HETTINGER M, KROLL AJ, LIU HS, LUBIN JR, WAGONER MD).
- ALLEN Robert C, Rubin ML.:
 Perspectives in refraction:
 chromostereopsis. Surv
 Ophthalmol 26:22-7, Jul-Aug,
 1981.
- Anderson P John (See EPSTEIN DL).
- Bajart Ann M (See BORUCHOFF SA).
- Belcher C Davis (See LASS JH, SIMMONS RJ).
- BELLOWS A Robert.: Cyclocryotherapy for glaucoma. Internat Ophthalmol Clin 2I:99-III, Spr I98I.

- BELLOWS A Robert, McCulley James P.: Endophthalmitis in aphakic patients with unplanned filtering blebs wearing contact lenses. Ophthalmology 88:839-43, Aug 1981.
- Bellows A Robert (See Lass JH). BERSON Eliot L.: Light deprivation and retinitis pigmentosa. Vis Res 20:1179-84, Dec 1980.
- Berson Eliot L, SHIH VE, Gargiulo M.: Reduction of hyperornith-inemia with a low protein, low arginine diet and pyridoxin in patients with a deficiency of ornithine-ketoacid transaminase (OKT) activity and gyrate atrophy of the choroid and retina. Clin Chim Acta I13:243-51, Jul I, 1981.
- BERSON Eliot L, Shih E, Sullivan PL.: Ocular findings in patients with gyrate atrophy on pyridoxine and low-protein, low-arginine diets. Ophthalmology 88:311-5, Apr 1981.
- BERSON Eliot L.: Retinitis pigmentosa and allied diseases: applications of electroretinographic testing. Internat Ophthalmol 4:7-22, Aug 1981.
- BERSON Eliot L, Watson G, Grasse KL, Szamier RB.: Retinal degeneration in cats fed casein. IV. The early receptor potential. Invest Ophthalmol Vis Sci 2I:345-50, Aug I98I.
- BERSON Eliot L.: Hereditary retinal diseases: applications of electrophysiological and psychophysical testing. In: Clinical applications of psychophysics/edited by L.M. Proenza et al. Cambridge, England. Cambridge University Press, 1981. pp. 170-97.
- BERSON Eliot L.: Electrical phenomena in the retina. Chapter 17 in: *Adler's physiology of the eye, clinical application*/edited by Robert A. Moses. 7th ed. St. Louis. Mosby, 1981. pp. 466-529.
- Berson Eliot L (See JACOBSON SG, SANDBERG MA, SCHMIDT SY).
- BEYER Charles K.: Ptosis congenita. Ber Dtsch Ophthalmol Ges 77:23-32, 1980.
- BEYER Charles K.: Komplikationen der ptosis-chirurgie. Ber Dtsch Ophthalmol Ges 77:49-52, 1980.
- BEYER Charles K, McCarthy RW.: Surgical treatment of ptosis in acquired third nerve paralysis. Ann Ophthalmol I3:373-6, Mar I98I.

- BEYER Charles K, McCarthy RW, Webster RC.: Baggy lids: classification and newer aspects of treatment to avoid complications. Ophthalmol Digest pp. 7-8, Mar I98I.
- Beyer Charles K. LEMAGNE JM.: Techniques de reconstruction de la paupiere inferieure. J Fr Ophthalmol 4:307-I5, Apr 1981.
- BEYER Charles K, Albert DM.:
 The use and fate of fascia lata and sclera in ophthalmic plastic and reconstructive surgery. The 1980 Wendell Hughes Lecture. Ophthalmology 88:869-86. Sep 1981.
- mology 88:869-86, Sep 1981. Beyer Charles K (See McCARTHY RW).
- BIENFANG Don C, Zakov ZN, Albert DM.: Severe electrical burn of the eye. Albrecht von Graefes Arch Klin Ophthalmol 214:147-53, 1980.
- BLAIR Norman P, Trempe CL.: Hypertrophy of the retinal pigment epithelium associated with Gardner's syndrome. Am J Ophthalmol 90:66I-7, Nov 1980.
- BLAIR Norman P, Brockhurst RJ, Lee W.: Central serous choroidopathy in the Hallermann-Streif syndrome. Ann Ophthalmol 13:987-90, Sep 1981.
- BOGER William P III, Steinert RF, Thomas JV.: Timolol in the therapy of "ocular hypertension." Surv Ophthalmol 25: 195-202, Nov-Dec, 1980.
- Boger William P III, FIERSON WM, Diorio PC, Petersen RA, Robb RM.: The effect of bilateral superior oblique tenotomy on horizontal deviation in A-pattern strabismus. J Pediatr Ophthalmol Strabismus I7:364-71, Nov/Dec I980.
- BOGER William P III.: Late ocular complications in congenital rubella syndrome. Ophthalmology 87:I244-52, Dec I980.
- Boger William P III, HOSKINS HD Jr, Shaffer RN.: Discussion of timolol. Palestra Oftalmologica Pan Amer 4:6I-5, 1980.
- BOGER William P III, Petersen RA, Robb RM.: Keratoconus and acute hydrops in mentally retarded patients with congenital rubella syndrome. Am J Ophthalmol 91:23I-33, Feb I98I.
- BOGER William P III, Walton DS.: Timolol in uncontrolled childhood glaucomas. Ophthalmology 88:253-8,Mar 1981.
- BOGER William P III, Petersen RA, Robb RM.: Spontaneous absorption of the lens in the congenital rubella syndrome. Arch Ophthalmol 99:433-4, Mar 1981.

BOGER William P III. The eye. Chapter 16 in: Current pediatric therapy/edited by Sidney S. Gillis and Benjamin M. Kagnan. — Philadelphia. W.B. Saunders, 1980.

Boger William P III (See STEINERT RF).

BORUCHOFF S Arthur, Bajart AM.: Corneal abrasions, contusions, lacerations and perforations. In: Current ocular therapy/edited by Frederick T. Fraunfelder and F. Hampton Roy. — Philadelphia. W.B. Saunders, 1980. pp. 299-300.

Boruchoff S Arthur, DONSHIK PC, Cavanaugh HD, Dohlman CH.: Posterior subcapsular cataracts induced by topical corticosteroids following keratoplasty for keratoconus. Ann Ophthalmol 13:29-32, Ian 1981.

Bradbury Michael J (See PAVAN PR).

BROCKHURST Robert J.: Vortex vein decompression for nanophthalmic uveal effusion. Arch Ophthalmol 98:1987-90, Nov 1980.

Brockhurst Robert J (See BLAIR NPL

Burke James F (See McCARTHY

Cavanaugh Henry D (See Boruchoff SA)

CHANDLER Paul A.: Chandler's syndrome. ln: Current ocular therapy/edited by Frederick T. Fraunfelder and F. Hampton Roy. — Philadelphia. W.B. Saunders, 1980. pp. 443-4.

Cheng Hong-Ming (See GILLIS MK, JEDZINIAK JA).

CHYLACK Leo T Jr.: The crystalline lens: an overview. In: Red blood cell and lens metabolism/edited by S.K. Srivastava. - New York. Elsevier-North Holland, 1980. pp. 27-39.

CHYLACK Leo T Jr.: Sugar cataracts - possibly the beginning of medical anticataract therapy. In: Mechanisms of cataract formation/edited by G. Duncan. London. Academic Press,

1980. p. 237.

CHYLACK Leo T Jr, Bettelheim FA, Tung WH.: Studies on human cataracts. 1. Evaluation of techniques of human cataract preservation after extraction. Invest Ophthalmol Vis Sci 20:327-33, Mar 1981.

Chylack Lco T Jr, SIEW EL, Tung WH, Bettelheim FA.: Studies on human cataracts. 11. Correlation between the clinical description and the light scattering parameters of human cataracts. Invest Ophthalmol Vis Sci 20:334-47, Mar 1981.

Chylack Leo T Jr, BETTELHEIM FA, Siew EL.: Studies on human cataracts. III. Structural elements in nuclear cataracts and their contribution to the turbidity. Invest Ophthalmol Vis Sci 20:348-54, Mar 1981.

Chylack Leo T Jr, WOLFE JK, Peczon BD.: Calf lens phosphofructokinase: purification by single step affinity chromatography and partial characterization. Exp Eye Res 32:553-62, May 1981.

Chylack Leo T Jr, CHOIU SH, Tung WH, Bunn HF.: Nonenzymatic glycosylation of bovine lens crystallins: effect of aging. J Biol Chem 256: 5176-80, May 25, 1981.

Chylack Leo T Jr (See GILLIS MK, JEDZINIAK JA).

COGAN David G, Chu FC, Gittinger J, Tychsen L.: Fundal abnormalities of Gaucher's disease. Arch Ophthalmol 98:2202-3, Dec 1980

COGAN David G, Chu FC, Reingold DB, Tychsen L.: A long-term follow-up of congenital ocular motor apraxia: a case report. Neuroophthalmol 1:145-7, 1980.

COGAN David G.: Stroke. Chapter 19 in: Neuroophthalmology, a series of critical surveys of the international literature, vol. 1, 1980/edited by S. Lessell and J.T.W. van Dalen. Amsterdam. Exerpta Medica, 1980. pp. 282-8

COGAN David G, Chu FC, Bachman DM, Barranger J.: The DAF syndrome. Neuroophthalmol 2:7-16, 1981.

COHEN Elizabeth J, Allansmith MR.: Fixation techniques for secretory component in human lacrimal gland and conjunctiva. Am J Ophthalmol 91:789-93, Jun 1981.

Craft Joseph L (See ALBERT DM, Albert DM).

Dallow Richard L, CHANG S, Coleman DJ.: Trends in ophthalmology ultrasonography. In: Progress in medical ultrasonography: reviews and comments/edited by A. Kurjak. — Amsterdam. Exerpta Medica, 1980. pp. 279-313.

DALLOW Richard L.: Eye and orbit. Chapter 10 in: Clinics in diagnostic ultrasound. Ultrasound in cancer/edited by B.B. Goldberg. — New York. Churchill Livingstone, New York, 1981. pp. 136-56.

D'AMICO Donald J, Kenyon KR, Ruskin JN.: Amiodarone keratopathy. Drug-induced lipid storage disease. Arch Ophthalmol 99:257-61, Feb 1981.

D'AMICO Donald J, Kenyon KR.: Drug-induced lipidoses of the cornea and conjunctiva. Internat Ophthalmol 4:67-76, Aug 1981.

DELORI Francois C, Parker JS, Mainster MA.: Light levels in fundus photography and fluorescein angiography. Vis Res 20:1099-1104, Nov I980.

DELORI François C, Pomerantzeff O, Mainster MA.: Light levels in ophthalmic diagnostic instruments. Proc Soc Photooph lnst Eng 229:154-60, 1980.

Depperman Stephen R (See SIMMONS RJ).

DOHLMAN Claes H.: Corneal edema. (Bullous keratopathy, epithelial edema). ln: Current ocular therapy/edited by Frederick T. Fraunfelder and F. Hampton Roy. — Philadelphia. W.B. Saunders, 1980. p. 376-7.

Dohlman Claes H (See ABELSON MB, Boruchoff SA, LASS JH, WAGONER MDI

DONALDSON David D.: Marginal furrow corneal degeneration. (Furrow dystrophy, marginal ectasia, peripheral furrow keratitis, Terrien's dystrophy). In: Current ocular therapy/edited by Frederick T. Fraunfelder and F. Hampton Roy. Philadelphia. W.B. Saunders, 1980. pp. 358-9.

DRYJA Thaddeus P, Albert DM .: Lack of adrenergic influence on the pigmentation of iris nevus cells. Arch Ophthalmol

98:1996, Nov 1980

Dueker David K (See SIMMONS RJ).

Dulit Rebecca A (See SIMMONS RI).

DUNPHY Edwin B.: Obituary: Sir Stewart Duke-Elder. Trans Am Ophthalmol Soc 78:3-5, 1980.

EDWARDS Ross B.: The isolation and culturing of retinal pigment epithelium of the rat. Vis Res 21:147-50, Jan 1981

Effron Marc H (See JACOBSON SG, SANDBERG MA)

EPSTEIN David L.: Phacolytic glaucoma. ln: Current ocular therapy/edited by Frederick T. Fraunfelder and F. Hampton Roy. — Philadelphia. W.B. Saunders, 1980. pp. 463-5.

EPSTEIN David L, Hashimoto JM, Anderson PJ, Grant WM.: Effect of iodoacetamide perfusion on outflow facility and metabolism of the trabecular meshwork. Invest Ophthalmol Vis Sci 20:625-31, May 1981.

EPSTEIN David L, Murphy E.: Effect of combined 1% cyclopentolate-10% phenylephrine eye drops on systemic blood pressure of glaucoma patients. Ann Ophthalmol 13:735-6, Jun 1981.

Epstein David L (See HASHIMOTO JM, PACKER AJ, RICHARDSON TM, THOMAS JV)

Fogle JA (See KENYON KR, Kenyon KR).

FOSTER C Stephen.: Miconazole therapy for keratomycosis. Am J Ophthalmol 91:622-9, May 1981.

FOSTER C Stephen, Duncan J.: Penetrating keratoplasty for herpes simplex keratitis. Am J Ophthalmol 92:336-43, Sep 1981.

FOSTER C Stephen, Fujikawa L, Colvin R.: Fibronectin in healing rabbit corneal wounds. Lab Invest 45:120-9, Aug 1981.

FOSTER C Stephen.: Immunosuppressive therapy for experimental corneal ulceration. In: Immunology of the eye. Workshop II. Autoimmune phenomena and ocular disorders/edited by R.J. Helmsen et al. — Information Retrieval Inc. Arlington, Va, 1981. pp. 91-102.

FOSTER C Stephen, Lass J.: Antifungal ocular toxicity. In: The cornea in health and disease. VIth Congress of the European Society of Ophthalmology. Royal Society of Medicine International Congress and Symposium Series, No 40/ edited by Patrick Trevor-Roper. — London. Academic Press, 198I. pp. 671-6.

FOSTER C Stephen, Dubey DP, Stux S, Yunis E.: Natural killer (NK) cytotoxicity and HLA-A, B, C and DR profile in a group of patients with recurrent versus non-recurrent herpes simplex keratitis (HSK). In: The cornea in health and disease. VIth Congress of the European Society of Ophthalmology. Royal Society of Medicine International Congress and Symposium Series, No. 40/edited by Patrick Trevor-Roper. — London. Academic Press, 1981. pp.

FOSTER C Stephen, Duncan J.: Prognostic factors in penetrating keratoplasty for herpes simplex keratitis. In: The comea in health and disease. VIth Congress of the European Society of Ophthalmology. Royal Society of Medicine International Congress and Symposium Series, No. 40./edited by Patrick Trevor-Roper. London. Academic Press, 1981. pp. 797-800.

FOSTER C Stephen, Dubey DP, Stux S, Yunis E.: Natural killer activity and HLA phenotypes in patients with herpes simplex keratitis. In: *Herpetische Augenerkrankungen*/edited by R. Sundmacher. — Berlin. Springer-Verlag, 1981. pp. 85-9.

FOSTER C Stephen.: Penetrating keratoplasty for herpes simplex keratitis. In: *Herpetische Augenerkrankungen*/edited by R. Sundmacher. — Berlin. Springer-Verlag, 1981. pp. 425-30.

Foster C Stephen (See LASS JH). Fraioli Anthony J (See PACKER AJ).

Frederick Albert R (See LUBIN JR).

FREEMAN H MacKenzie.: Staphyloma. In: Current ocular therapy/edited by Frederick T. Fraunfelder and F. Hampton Roy. — Philadelphia. W.B. Saunders, 1980. p. 575.

Freeman H MacKenzie (See TOLENTINO FI, TREMPE CL).

FRIBERG Thomas R.: Retinal perivasculitis in phacolytic glaucoma. Am J Ophthalmol 91:761-3, Jun 1981.

FRIBERG Thomas R, Thomas JV,
Dressel TD.: serum cholinesterase, serum lipase, and
serum amylase levels during
long-term echothiophate
iodide therapy. Am J
Ophthalmol 91:530-3,
Apr 1981.

FRICKER Stephen J, Kuperwaser MC, Stromberg AE, Goldman SG.: Use of a video-game/stripe presentation for amblyopia therapy. J Pediatr Ophthalmol Strabismus 18:11-16, Mar-Apr, 1981.

FRICKER Stephen J, Kuperwaser MC, Stromberg AE, Goldman SG.: Stripe therapy for amblyopia with a modified television game. Arch Ophthalmol 99:1596-9, Sep 1981.

GILLIS M Kathryn, Chylack LT Jr, Cheng H-M.: Age and the control of glycolysis in the rat lens. Invest Ophthalmol Vis Sci 20:457-66, Apr 1981.

Gillis M Kathryn (See JEDZINIAK JA).

Goldman Susan G (See FRICKER SI).

GONDER John R, Shields JA, Albert DM.: Malignant melanoma of the choroid associated with oculodermal melanocytosis. Ophthalmology 88:372-6, Apr 1981.

Gonder John R (See ALBERT DM). GRAGOUDAS Evangelos S, Regan CDJ.: Peripapillary subretinal neovascularization in presumed sarcoidosis. Arch Ophthalmol 99:1194-7, Jul 1981. Gragoudas Evangelos S (See HEDGES TR).

GRANT W Morton, Walton DS.: Aniridia. In: Current ocular therapy/edited by Frederick T. Fraunfelder and F. Hampton Roy. — Philadelphia. W.B. Saunders, 1980. pp. 471-2.

Grant W Morton (See EPSTEIN DL).

Grasse Keith L (See BERSON EL). GROVE Arthur S Jr.: Eyelid retraction treated by levator marginal myotomy. Ophthalmology 87:1013-8, Oct 1980.

Grove Arthur S Jr, SOBER AJ, Muhlbauer JE.: Cicatricial ectropion and lacrimal obstruction associated with the sclerodermoid variant of porphyria cutanea tarda. Am J Ophthalmol 91:396-400, Mar 1981.

GROVE Arthur S Jr.: Upper eyelid retraction and Grave's disease. Ophthalmology 88:499-506, Jan 1981.

GROVE Arthur S Jr.: Orbit. In.: Orbit, eyelids and lacrimal system/edited by Arthur S. Grove. — Rochester, Minn. American Academy of Ophthalmology, 1981.

GROVE Arthur S Jr.: Orbit, eyelids and lacrimal system/ edited by Arthur S. Grove. — Rochester, Minn. American Academy of Ophthalmology, 1981.

Grove Arthur S Jr (See LUBIN JR, WILSON WR).

GRUENBERG Peter C, Manning W, Miller D, Olson W.:
Increase in rabbit corneal curvature by heated ring application. Ann Ophthalmol 13:67-70, Jan 1981.

GRUENBERG Peter C, Manning W, Miller D.: Ophthalmometry without patient fixation. Ann Ophthalmol 13:419-20, Apr 1981.

Gruenberg Peter C (See MILLER D).

Haaf Joan (See LASS JH).

HASHIMOTO Joann M, Epstein DL.: Influence of intraocular pressure on aqueous outflow facility in enucleated eyes of different mammals. Invest Ophthalmol Vis Sci 19:1483-9, Dec 1980.

Hashimoto Joann (See EPSTEIN DL).

HETTINGER Michael E, Pavan-Langston D, Park NH, Albert DM et al.: Ac2IDU, BVDU, and thymine arabinoside therapy in experimental herpes keratitis. Arch Ophthalmol 99:1618-21, Sep 1981.

Hettinger ME (See PARK NH). HIROSE Tatsuo, Wolf E, Schepens CL.: Retinal functions in snowflake degeneration. Ann Ophthalmol 12:1135-46, Oct 1980. HIROSE Tatsuo, Schepens CL, Lopansri C.: Subtotal open-sky vitrectomy for severe retinal detachment occurring as a late complication of ocular trauma. Ophthalmology 88:1-9, Jan 1981.

JACOBSON Samuel G, Sandberg MA, Effron MH, Berson EL.: Foveal cone electroretinograms in strabismic amblyopia: comparison with juvenile macular degeneration, macular scars and optic atrophy. Trans Ophthalmol Soc UK 99:53-6, 1980.

Jallow Sulayman E (See LUBIN

JR).

JEDZINIAK Judith A.: Posttranslational modifications of human lens proteins. In: Red blood cell and lens metabolism/edited by S.K. Srivastava. — New York. Elsevier-North Holland, 1980. p. 359.

JEDZINIAK Judith A, Chylack LT Jr, Cheng H-M, Gillis MK, Kalustian AA, Tung WH.: The sorbitol pathway in the human lens: aldose reductase and polyol dehydrogenase. Invest Ophthalmol Vis Sci 20:314-26, Mar 1981.

JOHNSON Carl C.: Epiblepharon and entropion. Ophthalmol Times 38:Mar 1981.

Kalustian Albert A (See JEDZINIAK JA).

KAUFMAN Jay H.: Recessedangle glaucoma secondary to trauma. In: Current ocular therapy/edited by Frederick T. Fraunfelder and F. Hampton Roy. — Philadelphia. W.B. Saunders, 1980. pp. 468-9.

Kenyon Kenneth R, GREINER JV, Henriquez AS, et al.: Mucus secretory vesicles in conjunctival epithelial cells of wearers of contact lenses. Arch Ophthalmol 98:1843-6, Oct 1980.

Kenyon Kenneth R, SENG WL, Glogowski JA et al.: The effect of thermal burns on the release of collagenase from corneas of vitamin A-deficient and control rats. Invest Ophthalmol Vis Sci 19:1461-70, Dec 1980.

Kenyon Kenneth R. HIRST LW, Fogle JA et al.: Comparative studies of corneal surface injury in the monkey and rabbit. Arch Ophthalmol 99:1066-73, Jun 1981. Kenyon Kenneth R, HENRIQUEZ AS, Allansmith MR.: Mast cell ultra-structure. Comparison in contact lens-associated giant papillary conjunctivitis and vernal conjunctivitis. Arch Ophthalmol 99:1266-72, Jul 1981.

Kenyon Kenneth R, SNIP RC, Green WR et al.: Posterior corneal pigmentation and fibrous proliferation by iris melanocytes. Arch Ophthalmol 99:1232-8, Jul 1981.

Kenyon Kenneth R, KAMPIC A, Michaels RC et al.: Epiretinal and vitreous membranes. Comparative study of 56 cases. Arch Ophthalmol 99:1445-54, Aug 1981.

Kenyon Kenneth R, HIRST LW, Fogle JA et al.: Corneal epithelial adhesion studies. Aust J Ophthalmol 9:103-11, 1981.

KENYON Kenneth R.: Congenital hereditary endothelial dystrophy. (CHED). In: Current ocular therapy/edited by Frederick T. Fraunfelder and F. Hampton Roy. — Philadelphia. W.B.Saunders, 1980. pp. 369-70.

KENYON Kenneth R, Fogle JA, Grayson M.: Dysgeneses, dystrophies and degenerations of the cornea. Chapter 16 in: Clinical ophthalmology/edited by T. Duane. — Hagerstown, Md. Harper & Row, 1981. vol. 4.

Kenyon Kenneth R (See D'AMICO DJ).

KLEPACH Garron L, Wray SH.:
Bilateral serous retinal
detachment with thrombocytopenia during
penicillamine therapy. Ann
Ophthalmol 13:201-3,
Feb 1981.

KROLL Arnold J, Ricker DP, Robb RM, Albert DM.: Clinical pathological review: vitreous hemorrhage complicating retinal astrocytic hamartoma. Surv Ophthalmol 26:31-8, Jul-Aug 1981.

Kuperwaser Mark C (See FRICKER SJ).

LASS Jonathan H, Thoft RA,
Bellows AR, Slansky HH.:
Exogenous Nocardia asteroides
endophthalmitis associated
with malignant glaucoma.
Ann Ophthalmol 13:317-21,
Mar 1981.

LASS Jonathan H, Campbell RC, Rose J, Foster CS, Dohlman CH.: Medroxyprogesterone on corneal ulceration. Its affects after alkali burns on rabbits. Arch Ophthalmol 99:673-7, Apr 1981.

LASS Jonathan H, Haaf J, Foster CS, Belcher CD.: Visual outcome in eight cases of serratia marcescens keratitis. Am J Ophthalmol 92:384-90, Sep 1981.

Lass Jonathan H (See FOSTER CS).

Lopansri Cheraphat (See HIROSE

LUBIN Jane R, Jallow SE, Wilson WR, Grove AS Jr, Albert DM.: Rhinoscleroma with exophthalmos: a case report.
Br J Ophthalmol 65:14-17, Jan 1981.

LUBIN Jane R, Loewenstein JI, Frederick AR.: Vogt-Koyanagi-Harada syndrome with focal neurologic signs. Am J Ophthalmol 91: 332-41, Mar 1981.

LUBIN Jane R.: Oculocutaneous albinism associated with corneal mesodermal dysgenesis. Am J Ophthalmol 91:347-50, Mar 1981.

LUBIN Jane R, Walton DS, Albert DM.: Two cases of selected familial erythrophagocytic lymphohistiocytosis. Am J Ophthalmol 91: 743-9, Jun 1981.

McCARTHY Rodney W, Beyer CK, Dallow RL et al.: Conjunctival cysts of the orbit following enucleation. Ophthalmology 88:30-5, Jan 1981.

McCarthy Rodney W (See BEYER CK).

McMeel J Wallace, MORALES-STOPPELLO J, Feke GT et al.: Fluorophotometrie cinetique de la papille chez les diabetiques. Bull Mem Soc Fr Ophtalmol 92:100-4, 1980.

McMeel J Wallace, TAKAHASHI M, Trempe CL, Maguire K.: Vitreo-retinal relationship in diabetic retinopathy. A biomicroscopic evaluation. Arch Ophthalmol 99:241-5, Feb 1981.

McMeel J Wallace, FRANKS EP, Kasprzyk JS.: Computerenhanced studies of diabetic retinopathy: I. Ophthalmology 88: 624-9, Jul 1981.

McMEEL J Wallace, Franks EP.: Computer-enhanced studies of diabetic retinopathy: II. Ophthalmology 88:630-4, Jul 1981.

McMEEL J Wallace, Martin DB, Maguire K et al.: Diabetic retinopathy study: Report No. 6: Design, methods and baseline results. Report No. 7: A modification of the Airlie House classification of diabetic retinopathy. Invest Ophthalmol Vis Sci 21: Part 2, Jul 1981.

McMeel J Wallace (See SPENCER R, VALONE JA Jr).

MAINSTER Martin A, Yimoyines DJ.: Purchasing a medical office minicomputer system. Guidelines and considerations. Surv Ophthalmol 25:391-6, May-Jun 1981.

Mainster Martin A (See DELORI

MILLER David, Gruenberg P, Miller R, Bergamini BVW.: Topical flurbiprofen or prednisolone acetate: effect on corneal wound healing in rabbits. Arch Ophthalmol 99:681-2, Apr 1981.

MILLER David, Manning WSB, Miller R et al.: Intraocular lens power check. Am J Ophthalmol 91:462-4, Apr 1981. MILLER David, Taube J, Miller R

MILLER David, Taube J, Miller R et al.: A system for slit-lamp polaroid photography.
Ophthalmic Surg 12:328-31,
May 1981.

MILLER David.: Intraocular lenses. Ann Ophthalmol 13:541-3, May 1981.

MILLER David, Stegmann Robert.: Use of sodium hyaluronate in human IOL implantation. Ann Ophthalmol 13:811-5, Jul 1981. MILLER David, White Paul F.:

MILLER David, White Paul F.: Complications of contact lenses. Internat Ophthalmol Clin 21: Sum 1981.

Miller David, WHITE Paul F.: Corneal edema. Internat Ophthalmol Clin 21:3-12, Sum 1981.

MILLER David, Weiss JN.: Corneal endothelium. Internat Ophthalmol Clin 21:39-46, Sum 1981.

MILLER David.: Systemic medications. Internat Ophthalmol Clin 21:177-83, Sum 1981.

MILLER David.: A teaching eye model for ophthalmoscopy. J Med Ed 56:671-2, 1981.

Miller David (See GRUENBERG P).

Moazed Kambiz, EGBERT PR, Fajardo LF, Donaldson SS.: Posterior ocular abnormalities after irradiation for retinoblastoma: a histopathological study. Br J Ophthalmol 64:660-5, Sep 1980.

Mobilia Eleanor F (See THOFT RA).

O'Neill-Dryja Maureen (See WAGONER MD).

PACKER Andrew J, Fraioli AJ,
Epstein DL.: The effect of
timolol and acetazolamide on
transient intraocular pressure
elevation following cataract
extraction with alphachymotrypsin. Ophthalmology
88:239-43, Mar 1981.

Papale John J (See ALBERT DM).
PARK No Hee, Pavan-Langston D,
Hettinger ME.: Acyclovir
therapy for the orofacial and
ganglionic HSV infection in
hairless mice. J Dent Res
59:2080-6, Dec 1980.

Park No Hee (See HETTINGER ME, PAVAN-LANGSTON D).

PAVAN Peter R, Aiello LM, Wafai MZ, Briones JC, Sebestyen JG, Bradbury MJ.: Optic disc edema in juvenile-onset diabetes. Arch Ophthalmol 98:2193-5, Dec 1980.

PAVAN-LANGSTON Deborah, Park NH, Hettinger ME.: Ganglioic herpes simplex and systemic acyclovir. Arch Ophthalmol 99:1417-9, Aug 1981.

PAVAN-LANGSTON Deborah.:
Ocular herpes simplex —
current and future therapeutic trends. In: Ocular
therapeutics/edited by D.
Srinivason. — New York.
Masson, 1980. pp. 5-19.

PAVAN-LANGSTON Deborah.:
Varicella. (Chickenpox). In:
Current ocular therapy/edited
by Frederick T. Fraunfelder
and F. Hampton Roy. —
Philadelphia. W.B. Saunders,
1980, pp. 76-7.

Pavan-Langston Deborah (See HETTINGER ME, PARK NH).

Petersen Robert A, FULTON AB, Manning K, Salem D.: Cycloplegic refractions of premature infants. Am J Ophthalmol 91:490-5, Apr 1981.

Petersen Robert A (See BOGER WP III, Boger WP III).

PRUETT Ronald C.: Persistent hyperplastic primary vitreous. (PHPV). In: Current ocular therapy/edited by Frederick T. Fraunfelder and F. Hampton Roy. — Philadelphia. W.B. Saunders, 1980. pp. 577-8.

PRUETT Ronald C, Carvalho AC, Trempe CL.: Microhemorrhagic maculopathy. Arch Ophthalmol 99:425-32, Mar 1981.

Pruett Ronald C (See VAUGHN LW).

Puliafito Carmen A (See ALBERT DM).

Regan Charles DJ (See GRAGOUDAS ES).

RICHARDSON Thomas M,
Epstein DL.: Exfoliation
glaucoma: a quantitative
perfusion and ultrastructural
study. Ophthalmology 88: 96880, Sep 1981.

Ricker Deanna P (See KROLL AJ). Robb Richard M, MAGOON EH.: Development of myelin in human optic nerve and tract. Arch Ophthalmol 99:655-9, Apr 1981.

ROBB Richard M.:

Ophthalmology for the
pediatric practitioner/Richard
M. Robb. — Boston. Little,
Brown, 1981.

Robb Richard M (See BOGER WP III, Boger WP III, KROLL AJ). Rose Jeanette (See LASS JH). Sadun Alfredo A (See ABELSON MB). SANDBERG Michael A, Berson EL, Effron MH.: Rod-cone interaction in the distal human retina. Science 212:829-31, May 15, 1981.

Sandberg Michael A (See JACOBSON SG).

Sang Delia N (See ALBERT DM). SCHEPENS Charles L, Liu H-S.: Modern treatment of retinal detachment. Chin Med J 93:681-96, Oct 1980.

SCHEPENS Charles L.: Clinical and research aspects of subtotal open-sky vitrectomy. XXXVII Edward Jackson Memorial Lecture. Am J Ophthalmol 91:143-71, Feb 1981.

Schepens Charles L, BAEHR EF, McGannon WJ.: New cataract removal instrumentation and techniques: I. The NASA-McGannon cataract fragmentor. Ophthalmic Surg 12:177-81, Mar 1981.

Schepens Charles L, LIU HS,
Tolentino FI, Baehr EF.:
New cataract removal
instrumentation and
techniques: II. Laboratory
phacofragmentation with the
NASA-McGannon cataract
fragmentor. Ophthalmic Surg
12:182-4, Mar 1981.

Schepens Charles L (See HIROSE T, Trempe CL, VAUGHN LW).

SCHMIDT Susan Y.: Highaffinity uptake of [3H] taurine in isolated cat retinas: effects of Na and K. Exp Eye Res 31:373-9, Oct 1980.

SCHMIDT Susan Y, Berson EL.:
Postmorten metabolic
capacity of photoreceptor cells
in human and rat retinas.
Invest Ophthalmol Vis Sci
19:1274-80, Nov 1980.

Sebestyen John C (See AIELLO LM, PAVAN PR).

SIMMONS Richard J, Kimbrough RL, Belcher CD, Dulit RA.:
Laser gonioplasty for special problems in angle closure glaucoma. Chapter 13 in:
Symposium on glaucoma,
Transactions of the New
Orleans Academy of Ophthalmology/edited by J.E.
Cairns et al. — St. Louis.
C.V. Mosby, 1980. pp. 220-35.

SIMMONS Richard J, Thomas JV, Singh OS.: Glaucoma surgical options with coexisting cataract and glaucoma. Chapter 15 in: Symposium on glaucoma, Transactions of the New Orleans Academy of Ophthalmology/edited by J.E. Cairns et al. — St. Louis. C.V. Mosby, 1980. pp. 242-52.

SIMMONS Richard J, Singh OS.: Shell tamponade technique in glaucoma surgery. Chapter I7 in: Symposium on glaucoma, Transactions of the New Orleans Academy of Ophthalmology/edited by J.E. Cairns et al. — St. Louis. C.V. Mosby, 1980. pp. 266-79.

SIMMONS Richard J, Dueker DK, Depperman SR.: Role of anterior segment laser photocoagulation in prophylaxis and treatment of neovascular glaucoma. Chapter 28 in: Symposium on glaucoma, Transactions of the New Orleans Academy of Ophthalmology/edited by J.E. Cairns et al. — St. Louis. C.V. Mosby, 1980. pp. 39I-402.

Simmons Richard J, SHERIDAN JW.: Studies on a human melanoma cell line: effect of cell crowding and nutrient depletion on the biophysical and kinetic characteristics of the cells. J Cell Physiol 107:85-100, Apr 1981.

Simmons Richard J, WAGDI SF.:
Acute glaucoma from
unrecognized closure of
surgical cyclodialysis cleft.
Glaucoma 3:287-91, 1981.

Singh Omah S (See SIMMONS RI).

Slansky Harvey H (See LASS JH). Smith Taylor R (See PULIAFITO CA).

SNYDER Charles.: Julius Hirschberg, the neglected historian of ophthalmology. Am J Ophthalmol 91:664-76, May 1981.

SPENCER Rand, McMeel JW, Franks EP.: Visual outcome in moderate and severe proliferative diabetic retinopathy. Arch Ophthalmol 99:1551-4, Sep 1981.

STEINERT Roger F, Thomas JV, Boger WP III.: Long-term drift and continued efficacy after multiyear timolol therapy. Arch Ophthalmol 99:100-3, Jan 1981.

STÉINERT Roger F.: The red eye. ln: *Primary care medicine*/ edited by A.H. Gorrol et al. — Philadelphia. J.P. Lippincott, 1981. pp. 723-8.

Steinert Roger F (See BOGER WP III).

Stromberg Ann E (See FRICKER SI).

Sullivan Peter L (See BERSON EL).

SZAMIER R Bruce, Bennett MVL.: Ampullary electroreceptors in the fresh water ray, Potamotrygon. J Comp Physiol 138:225-30, 1980.

SZAMIER R Bruce, Ripps H, Chappell RL.: Changes in ERG b-wave and Muller cell structure induced by ∝-aminoadipic acid. Neurosci Lett 21:307-12, Feb 6, 1981. SZAMIER R Bruce.: Ultrastructure of the preretinal membrane in retinitis pigmentosa. Invest Ophthalmol Vis Sci 21:227-36, Aug 1981.

Szamier R Bruce (See BERSON

Thoft Richard A, SNIP RC, Tolentino FI.: Similar epithelial healing rates of the corneas of diabetic and nondiabetic patients. Am J Ophthalmol 90:463-8, Oct 1980.

Thoft Richard A, SHAPIRO MS, Friend J.: Cornealre-epithelialization from the conjunctiva. Invest Ophthalmol Vis Sci 21:135-42, Jul 1981.

THOFT Richard A, Mobilia EF.: Complications with therapeutic extended wear soft contact lenses. Internat Ophthalmol Clin 21:197-208, Sum 1981.

Thoft Richard A, FRIEND J, Kiorpes TC.: Diabetes mellitus and the rabbit corneal epithelium. Invest Ophthalmol Vis Sci 2I:317-21, Aug I981.

Thoft Richard A, KINOSHITA S, Friend J.: Sex chromatin of donor corneal epithelium in rabbits. Invest Ophthalmol Vis Sci 21:434-4I, Sep 1981.

Thoft Richard A (See LASS JH). THOMAS John V, Epstein DL.: Timolol and epinephrine in primary open angle glaucoma. Transient additive effect. Arch Ophthalmol 99:91-5, Jan 1981.

THOMAS John V, Epstein DL.: Study of the additive effect of timolol and epinephrine in lowering intraocular pressure. Br J Ophthalmol 65:596-602, Sep 1981.

THOMAS John V, Green WR.:
Fungal endophthalmitis,
Chapter 1I, pp. 311-44;
Melanotic uveal tumors,
Chapter 23, pp. 651-88;
Miscellaneous uveal tumors,
Chapter 24, pp. 689-704. ln:
Pathobiology of ocular
diseases/edited by A. Garner
and G.K. Klintworth. — New
York. Marcel Dekker, 1981.
Thomas John V (See BOGER WP

Thomas John V (See BOGER WP III, FRIBERG TR, SIMMONS RJ, STEINERT RF).

TOLENTINO Felipe I, Freeman HM, Tolentino FL.: Closed vitrectomy in the management of diabetic traction retinal detachment. Ophthalmology 87:1078-89, Nov 1980.

TOLENTINO Felipe I, Liu HS, Freeman HM.: Vitreous surgery: an update. Chin Med J 94:167-70, Mar 1981.

Tolentino Felipe I (See Schepens CL, Thoft RA).

TOPILOW Harvey W, Cykiert RC, Goldman K et al.: Bilateral corneal dermis-like choristomas. An xchromosome-linked disorder. Arch Ophthalmol 99:I387-91, Aug I981.

Topilow Harvey W (See TREMPE CL).

TREMPE Clement L, Takahashi M, Freeman HM.: Vitreous cinematography in the study of vitreoretinal diseases.
Ophthalmology 88:676-80, Jul 1981.

TREMPE Clement L, Takahashi M, Topilow HW.: Vitreous changes in retinal branch vein occlusion. Ophthalmology 88:681-7, Jul 1981.

Trempe Clement L, TAKAHASHI M, Kirokawa H.: Vitreous detachment, neovascularization and vitreous hemorrhage in retinal branch vein occlusion. Acta Soc Ophthalmol Jpn 85:731-6, 1981.

Trempe Clement L, TAKAHASHI M, Schepens CL et al.:
Biomicroscopic evaluation and photography of liquefied vitreous in some vitreoretinal disorders. Arch Ophthalmol 99:1555-9, Sep 1981.

Trempe Clement L (See BLAIR NP, McMeel JW, PRUETT RC)

Tung William H (See CHYLACK LT Jr, Chylack LT Jr, JEDZINIAK JA).

UDELL Ira J, Abelson MB.:
Animal and human ocular surface response to a topical nonimmune mast-cell degranulating agent (compound 48/80). Am J Ophthalmol 91:226-30, Feb 1981.

UDELL Ira J, Ballen PH, Mir R,
Perry HD.: Subconjunctival
lymphoma: a review of six
suspected cases and the use of
immunologic surface markers.
Ann Ophthalmol I3:47I-5,
Apr 1981.

Udell Ira J (See ABELSON MB). VALONE James A Jr, McMeel JW, Franks EP.: Unilateral proliferative diabetic retinopathy. I. Initial findings. Arch Ophthalmol 99:1357-61, Aug 1981.

VALONE James A Jr, McMeel JW, Franks EP.: Unilateral proliferative diabetic retinopathy. II. Clinical course. Arch Ophthalmol

99:I362-6, Aug 198I.
VAUGHN Leroy W, Schepens
CL.: Progressive lenticular
astigmatism associated with
nuclear sclerosis and coloboma
of the iris, lens and choroid: a
case report. Ann Ophthalmol
13:25-7, Jan 198I.

13:25-7, Jan 198I.
VAUGHN Leroy W, Pruett RC.:
A shot between the eyes.
Ann Ophthalmol 13:169-72,
Feb 1981.

VINGER Paul F.: Sports eye injuries, a preventable disease. Ophthalmology 88:108-13, Feb 1981.

Wafai Mohammed Z (See AIELLO LM, PAVAN PR).

WAGONER Michael D, Dohlman CH, Albert DM, Lavin P, Murphy A, O'Neill-Dryja M.: Corneal donor material selection. Ophthalmology 88:139-45, Feb 1981.

Wagoner Michael D (See Albert DM).

Walton David S (See BOGER WP, III, GRANT DM, LUBIN JR).

Watson Gail (See BERSON EL). Weiter John J, WING GL.: A fixation device for enucleated eyes. Am J Ophthalmol 90:421-2, Sep 1980.

90:421-2, Sep 1980.
Weiter John J, KELLY PJ.:
Resolution of optic disc
neovascularization associated with intraocular
inflammation. Am J
Ophthalmol 90:545-8,
Oct 1980.

Weiter John J, OSBORN EL, Walker JP.: Bilateral choroidal melanomas: a case report. Ann Ophthalmol I2:1I54-5, Oct 1980.

Weiter John J, SUTULA FC.: Orbital socket pain after injury. Am J Ophthalmol 90:692-6, Nov 1980.

WEITER John J, Feingold M, Kolodny EH et al.: Retinal pigment epithelial degeneration associated with leucocytic arylsulfatase A deficiency. Am J Ophthalmol 90:768-72, Dec 1980.

Weiter John J, CORWIN JM.: Immunology of chorioretinal disorders. Surv Ophthalmol 25:287-305, Mar-Apr I981.

WRAY Shirley H.: Optic neuritis. Chapter 2 in: Neuro-ophthalmology, a series of critical surveys of the international literature, vol. II edited by S. Lessell and J.T.W. van Dalen. — Amsterdam. Exerpta Medica, 1980. pp. 18-30.

Wray Shirley H (See KLEPACH GL).

Yimoyines Dean J (See MAINSTER MA).

Zakov Z Nicholas (See Albert DM, BIENFANG DC).

ZWAAN Johan.: Role of the lens in growth of the eye. Ophthalmic Res 12:145-6, 1980.

ZWAAN Johan.: Genetically determined lens abnormalities. In: *The red blood cell and lens metabolism*/edited by S.V. Srivastava. — New York. Elsevier-North Holland, 1980. pp. 415-22.



Over 25 Years of Service
Dorothy Campanella
W. Morton Grant, M.D.
Dorothy Landers, R.N.
Roger Lane
Rita Lovely
Gerald Maloney
Charlotta Michalek
William Montgomery, M.D.
Lloyd Ramsdell
S. Madeline Shipsey
Barbara Smith, R.N.

25 Years of ServiceEvelyn Brewster, R.N.
Mary DiVincenzo
John Irwin, M.D.

Charles Snyder

Ann Stromberg

Charles T. Wood

20 Years of Service Stanley Baker Marika Ivanof Robert Kimura, Ph.D. Harold F. Schuknecht, M.D. Francis Wiemert Irma Wyman

15 Years of Service
Bertha C. Dean, R.N.
Gertrude DeRoche, L.P.N.
Ruth Dorfman, R.N.
Gene Giardina
Judith Harvey, R.N.
Gertrude King
Judith Nims
Kathryn Peterson

10 Years of Service Margarete Arndt Mauricio Bodden Maura Cambindo Leon Constant Anne Cummings Scratchrel Daley Constance Dalton, R.N. Marie DeLouis Gloria Dew Geraldine DiLorenzo Annette Driscoll, R.N. Richard Edwards Dieuseul Enfort Ruby Evans Jean Francis, R.N. Philip Garfinkel Jose Gonzalez Gladys Henry Janet Heuttig Daphne Isaac Catherine Jackson Origene Jean Marieta Joyner Jin Woo Kim, M.D. Judith McGinn, R.N. Frances McNulty, R.N. James McSweeney, C.R.N.A. Pauline Michaud Dorothy E. Mills Kathleen O'Sullivan Gertrude Poulin, C.R.N.A. Suzanne Rice, R.N. Claire Savard William Smith Marie Theart Mary Tilahun Michael Troddyn, C.R.N.A. Iohn Tsohantaridis

5 Years of Service Barbara Adams, L.P.N. Daniel Albert, M.D. Michael Beard Lynette Beckford Sooja Bell, R.N. Mary Bennett Karen Bonfatti, R.N. Richard Buckley Barbara Burgess Eleanor Bushman, M.T. Beverly Callahan Edward Cammarata, R.T. Linda Carmichael, M.L.T. Jane Chapman Barbara Clark Richard Cortese Carol Covell, R.N. Joseph Craft Nancy Crane Eva Crockett, R.N. Kathleen Cuff Rosemary Crowley Jean Dinon Margaret Donaher, R.N. Marie Donahue Suzanne Donley Stephen Earnhart, C.R.N.A. Sandra Edwards, L.P.N.

Valerie Turner

John Webb

Carl Ferrando C. Stephen Foster, M.D. Anthony Garand, R.Ph. Richard Giovanoni, R.Ph. Whitfield Goodman Lisa Gottlieb, R.Ph. Lenore Griffin Zedekiah Griffith Patricia Heasley John Kretas Daniel Lang, M.D. Ann Lanza Kenneth Lavigne M. Charles Liberman, Ph.D. Andrea Lindenmayer Mary Lynagh, R.N. Dorothy Maestri Kathryn McGoldrick, M.D. Susan Mosser, L.P.N. Roy Murphy Frank Nania Roy Niles Elsa Perez Rita Powers Martha Puzinas Frances Kelley Rakauskas, R.N. Nancy Robinson Madge Rockett, R.N. Thomas Sanborn Michael Santana Peter H. Sarno Leslie Sheperd Nora Smith, R.N. Rae Spinazola, S.T. Andrea Stanton Joseph Stukas Susan Tetove Linda Trasko Donald Trimmier, R.N. William Tung Linda Turner

Paula Underhill, R.N.

Christina Weeks, R.N.

Brenda Wilkinson Bosch, R.N.

Alan Weiner, R.T.

Larry White, R.N.

Ian Wilson

Over 100 Hours

Bernadette Butler Marie Caggiano Steven Cunningham Jane Ring DiPalma John DiSanto Susan Downes Mary Eagan Renita Esguerra Nauder Farhoody Cynthia Farkas John Foppiano Peter Hale Elizabeth Hall Barbara Holland Diane Howard Diane Mahoney Alba Reppucci Kathleen Shea Michael Tyler Phillip Tolentino Cynthia Wilkes



Honor Roll

Merle Barry Emma Buckley Evelyn Cunningham Winifred Cunningham Jacqueline A. Daly Barbara Dawson Geraldine DiLorenzo Margaret Duncan Wendy Ecker Suzanne Frederick Penelope Ghartey Mary Higgins Marjorie Kent Helen King Florence Knight Marydell Lipscomb Ruth Litton Stephanie Lombardo Eleanor Lowell Arline Margulies Helen McEvoy Ellen Meisel Phyllis Meisel Donna Montgomery Enid Fay Phillips Florence Reid Anne Schuknecht Ruth Shapiro Marvin Siegel Alice Silverman Charles Snelling Mildred Sullivan Priscilla Summers Gertrude von Pirquet



Executive Editor: Anne M. Gilmer, Assistant Director for Public Affairs and Development *Editor:* Ellen Barlow Editorial Assistant: Leslie Swindler

Development and Public Affairs Office Massachusetts Eye and Ear Infirmary 243 Charles Street Boston, Massachusetts 02114 523-7900, extension 622



9825-075

Massachusetts Eye and Ear Infirmary

243 Charles Street Boston, Massachusetts 02114



BULL HUE HUE

SEP 1 8 1984



